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This year we have introduced several modeling improvements, including estimating a parametric model for the nearly-diurnal and nearly-semidiurnal tidal frequency variations of UT1 and polar motion, and estimating site velocities.

In this report Earth Rotation Parameter (ERP) estimates have been obtained from an analysis of Deep Space Network (DSN) VLBI data that directly aligns its celestial and terrestrial reference frames with those of the International Earth Rotation Service (IERS). NASA's Deep Space Network operates radio telescopes for the primary purpose of communicating with interplanetary spacecraft. The DSN has three complexes: in California (stations DSS 12,13,34,15), in Spain (DSS 61,63,65), and in Australia (DSS 42,43,45). Two projects at JPL (called TEMPO and CAT M&E below) use these telescopes to make VLBI observations from which we have estimated earth rotation parameters. Each observing session uses antennas in two complexes, and usually exactly one antenna in each complex. This report describes a homogeneous reduction of currently available dual frequency (S and X band) VLBI data from both projects.

The Time and Earth Motion Precision Observations (TEMPO) project makes rapid turnaround VLBI measurements of station clock synchronization and earth orientation in support of spacecraft navigation, which needs extremely timely, moderate accuracy earth rotation information. In TEMPO observations the raw bit streams recorded at the telescopes are telemetered to JPL for correlation, so that no physical transportation of magnetic tapes is involved. TEMPO uses the JPL-developed Block I VLBI system, which has a 500,000 bits/second sampling rate, with time-division multiplexing of channels. This sampling rate permits the telemetry, and thus makes rapid turnaround possible. The reduced sensitivity caused by the relatively low sampling rate in comparison to other present-day VLBI systems is largely compensated by the very large antennas and very low system noise levels of the DSN telescopes. TEMPO uses two 70 meter DSN antennas (DSS 14, 43, 63) whenever possible and one 34 meter DSN antenna together with one 70 meter antenna when it is not possible to obtain simultaneous use of both of the larger antennas. Currently, TEMPO records 3 channels in S band (2285 MHz) and 3 channels in X band (8450 MHz). Since June 1.2, 1991, TEMPO has used a spanned bandwidth of 99 MHz at X band and 39 MHz at S band. Before that date, most TEMPO sessions used a spanned bandwidth of 40 MHz in each band. At present the DSN nominally schedules two TEMPO observing sessions per week, one on the Spain-California (SC) baseline, and the other on the Australia-California (AC) baseline. Each session is generally 3 hours in duration (occasionally less), and records a maximum of 20 sources. TEMPO observes most sources for 3 minutes and 18 seconds, a few for 6

minutes and 36 seconds. We plan to produce an operational series of ERP estimates from TEMPO sessions during 1993 that will be a continuation of the ERP series reported here.

The Catalog Maintenance and Enhancement (CAT M&E) project determines celestial coordinates of radio sources, and baseline vectors between DSN stations, for use in spacecraft navigation. In CAT M&E observations the raw bit streams are recorded on magnetic tapes for transportation to the correlator. Since June 1989 most CAT M&E observing sessions have used the Mark III VLBI system on stations DSS 15, 45, and 65, which support a 400 MHz spanned bandwidth capability. From late 1978 through 1988, CAT M&E used the Mark II VLBI system with a spanned bandwidth of 40 MHz in each band, and used two 70 meter DSN antennas (DSS 14, 43, 63) whenever possible. The DSN schedules CAT M&E observing sessions at irregular intervals, typically several times per year, with separate observing sessions on the SC and AC baselines. Each session is nominally 24 hours in duration and typically includes 100 to 330 observations of 50 to 1.34 radio sources.

Data from both the TEMPO and CAT M&E projects were used in the solution process for the ERP series reported here. In order that the TEMPO operational series of ERP estimates during 1993 can be an exact continuation of the ERP series reported here, the solution process consisted of two major steps. First, a "catalog solution" designated JPL 1.993-1 (see below) determined radio source coordinates, station coordinates and site velocities, a parametric model for the celestial motion of the Celestial Ephemeris Pole, and a parametric model for the nearly-diurnal and nearly-semidiurnal tidal frequency variations of UT₁ and polar motion. Then the second step, called the "ERP solution", used these results from the catalog solution to determine the earth rotation parameters in a manner that can be exactly continued in the operational series. In the ERP solution the data from each observing session were processed independently to provide an estimate of the UTO and variation of latitude (DPHI) of the baseline VECTOR for that session. Except for the UTO and variation of latitude, the relation between the earth--fixed reference frame and the radio-quasar reference frame was specified entirely by a priori data (which includes the results from the catalog solution). In addition to UTO and DPHI, the other parameters estimated in the ERP solution were:

1. A first degree polynomial clock model, including a term allowing for a bias in the phase-delay-rate data, with breaks as needed. Such clock breaks are rare in TEMPO sessions but more common in the longer duration CAT M&E sessions.
 2. Adjustments to the troposphere zenith delay at each station. In the CAT M&E sessions, new troposphere zenith parameters were introduced approximately every three hours (every two hours for data after 1992.0). A priori estimates of the troposphere zenith delays, derived from tables of monthly average zenith delays for each station, were included in the solution with a 6 cm standard deviation. (For good quality observing sessions in recent years, the effect of these a prioris is negligible and the estimated troposphere zenith delays are essentially completely determined by the VLBI observable.)
- Other properties of the ERP solution were:
1. The reported earth rotation parameters have had nearly-diurnal and nearly-semidiurnal tidal frequency variations removed--according to

the parametric model estimated in the catalog solution. (In other words, the effects in the table below headed "Short Period Tidal, ERP Variations" have NOT been added back in producing EOP(JPL)93 R 01.)

2. Ocean loading effects were calculated from the model of Scherneck (1983; 1991).
3. Pole tidal effects were included (Severs, 1991).
4. The Lanyi (1984) function was used for mapping zenith tropospheric delays to observed elevations.
5. The effects of charged particles in the ionosphere and solar plasma on the single-band delay and delay rate observable were removed by using the appropriate linear combination of the S-band and X-band data to form "dual frequency" delay and delay rate observable.
6. For recent years only sessions with 6 or more acceptable delay observations were included in the solution reported here.
7. The effect on path lengths caused by moving ("slewing") the antenna subreflector, so as to maximize the antenna gain when its focal length changes as the elevation angle changes, has been modeled for the TEMPO data. No such model is needed for the CAT M&E data since CAT M&E does not slew the subreflector. (Apparent station coordinates estimated from VLBI data will be corrupted if the subreflector is slewed but the effect on path length is not modeled in the delay calculations. The station coordinates estimated by the JPL 1993-1 catalog solution and used in the ERP solution are appropriate both for the case where the subreflector is not slewed and no path length effect is modeled and also for the case where the subreflector is slewed and the resulting effect on path length is explicitly modeled in the calculations.)

The raw observable uncertainties have been modified by adding quadratically an uncertainty component, for each of the two stations, equal to a small fraction (0.002 or 0.003) of the total a priori tropospheric effect at that station on the observable. We further quadratically added an "additive noise" constant when needed so as to make the Chi Square of the postfit residuals approximately equal to the number of degrees of freedom in the solution. The delay and delay rate additive noise constants were adjusted separately for each CAT M&E observing session. For the TEMPO data, the additive noises were adjusted for each of several blocks of observing sessions.

Each Earth Rotation measurement here is a UTO-DPHI pair, and has an associated error ellipse in the UTO-DPHI plane. Each such error ellipse is completely specified by the reported standard errors and correlation coefficient between UTO and DPHI. For single baseline VLBI measurements of ERP, such as those reported here, this error ellipse is typically quite elongated, with a ratio of major axis to minor axis of about 4:1. Therefore, for a proper interpretation of these data, it is CRUCIAL to make full use of the reported correlation coefficient.

For a single-baseline VLBI estimate of earth rotation, the orientation of the error ellipse in the UTO-DPHI plane is mostly determined by the global station geometry. The direction of the minor axis of the error ellipse in the UTO-DPHI plane as predicted by the station geometry is called the transverse rotation direction, and corresponds to the motion of the baseline in the local horizontal at each station or equivalently to a rotation about an axis through the

center of the earth and the midpoint of the baseline. In addition to being relatively insensitive to random measurement errors, the transverse rotation component is also relatively free of errors introduced by tropospheric modeling errors, antenna deformations, and other sources of systematic local-vertical errors. The transverse rotation components for the DSN baselines are:

Baseline	Transverse Component
Australia-California	-1.000 DPHI + 0.00 (UT0-TAI)
Spain-California	+0.582 DPHI + 12.21 (UT0-TAI)
Spain-Australia	-0.972 DPHI + 2.77 (UT0-TAI)

These coefficients assume that UT0 and DPHI are expressed in seconds of time and in arcseconds, respectively; the units of the transverse components are arcseconds. We recommend that these linear combinations be used to take full advantage of the inherent accuracy of these data.

The ERP solution produced earth orientation results for a total of 938 observing sessions between October 28, 1978, and March 12, 1.993.

During calendar year 1992, the TEMPO project produced earth rotation measurements from 96 dual frequency observing sessions, with a median standard error along the minor axis of the error ellipse of 0.3 milliarcseconds (mas), and along the major axis of 1.4 mas. During 1992 the median turnaround time for TEMPO measurements, from observation to availability of earth orientation parameters, was 50 hours.

JPL 1993-1 CATALOG

The JPL 1993-1 catalog was developed specifically for use in TEMPO operational ERP solutions during 1993. Since short duration VLBI determinations of the ERP are sensitive to errors in the celestial position of the Celestial Ephemeris Pole (CEP), and since the current IAU standards for the CEP are known to be in error by amounts significant to TEMPO, it is important that TEMPO use a CEP series that is corrected from the IAU standards and is consistent with the radio source coordinates (RSC) used. Current practicalities of TEMPO operations favor the use of a parametric model for the CEP that includes the long period motions. Therefore we have estimated such a model, along with the RSC and set of station coordinates (SSC) in the JPL 1993-1 catalog solution. This year our CEP motion model consists of the ZMOA-1990-2 nutation model (Herring, 1991) plus adjustments to the coefficients of certain terms of the ZMOA-1990-2 model, along with the IAU precession model and adjustments to its coefficients. Our CEP motion model is intended only to permit processing of TEMPO data for the ERP during the period reported here and during 1993, and will presumably need revision in 1994. In particular, it may not include all significant components, not all its adjustments may be genuinely significant, and its parameters may not all be well separated, but we believe it is adequate for our purposes.

As part of the JPL 1993-1 catalog solution we estimated coefficients of a model of ERP variations at nearly-diurnal and nearly-semidiurnal tidal frequencies. Nearly-diurnal polar motion

variations were constrained to have no retrograde part, thus allowing simultaneous estimation of nutations.

- The JPL 1993-1 catalog solution had the following properties:
1. Except where otherwise noted, the catalog solution was essentially identical to the ERP solution described above.
 2. All the available CAT M&E data through December 27, 1992, and most of the TEMPO data through January 17, 1993, were included.
 3. Information from intra-complex radio interferometry was used to constrain the coordinate differences between stations within each complex. The uncertainties used for these intracomplex ties vary from station pair to station pair and from component to component (the local vertical uncertainty is typically three times the horizontal uncertainty). These uncertainties are our best estimates of the realistic one-standard-deviation uncertainties of these ties and range from 5 mm to 18 mm.
 4. For each pair of observing sessions that used different pairs of DSN complexes (that is, California-to-Spain and California-to-Australia) with a time separation between the midpoints of the sessions of less than 15 hours, the adjustment ($\Delta x, \Delta y, \Delta U_1$) to the initial values of earth orientation is the same for both members of the pair. (The initial-value ERP series was a version of the SPACE92 series (Gross, 1993) modified to not use DSN VLBI data; it is a smoothed, combination-of-techniques ERP series obtained by Kalman filtering.) This treatment of close-in-time pairs serves to determine the angle between the California-to-Spain and California-to-Australia baseline vectors (and thus also the length of the Australia-to-Spain vector). There were 65 such pairs of TEMPO sessions; there were 6 such pairs involving one TEMPO session and one CAT M&E session; and there were no such pairs involving two CAT M&E observing sessions.
 5. The terrestrial frame of the JPL 1993-1 system was tied to the International Earth Rotation Service Terrestrial Reference Frame ITRF-91 (IERS, 1992, Table T-3) in the following way. The coordinates of all the DSN stations, including all those in California, were estimated in the catalog solution subject to six constraints applied to the nine coordinates of DSS 15, DSS 45, and DSS 65. These constraints are such that if a seven parameter transformation (3 translations, 3 rotations, 1 scale) between the JPL 1993-1 and ITRF-91 systems were estimated by unweighted least squares applied to the coordinates of DSS 15, 45, and 65, then the resulting 3 translation and 3 rotation parts of the transformation would be zero while the scale could be nonzero and unknown in advance of computing the catalog. (When expressed as the dot product of a nine dimensional unit vector with the nine station coordinates, each constraint is assigned an a priori standard deviation of 5 mm; this does not affect the resulting coordinates but does affect the calculated formal errors, giving them a more spherical distribution than would result if either very large or very small a priori standard deviations were used.) These constraints serve to determine both the translation and the rotation of the terrestrial coordinate system. The station coordinates resulting from the solution apply at a reference time of 1.988.0, in agreement with that of ITRF-91.
 6. Three-dimensional site velocities were estimated for each of the three DSN complexes. All stations in each DSN complex were assumed to have the same site velocity. The velocities were constrained

so as to produce no net translation rate and no net rotation rate, for the network composed of the three DSN complexes, relative to the net motion of this network of three sites as expressed in the ITRF-91 velocity field (IERS, 1992, Table T-5). Thus only three velocity parameters are actually being separately estimated; one way to describe these is as the rates of change of (1) the California-to-Australia length, (2) the California-to-Spain length, and (3) the angle between the California-to-Australia and California-to-Spain vectors. (When expressed as the dot product of a nine dimensional unit vector with the nine site velocity components, each constraint is assigned an a priori standard deviation of 1.0 mm/yr; this does not affect the resulting velocity components but does affect the calculated formal errors, giving them a more spherical distribution than would result if either very large or very small a priori standard deviations were used.)

7. The celestial frame of the JPL 1993-1 system was tied to the International Earth Rotation Service Celestial Reference Frame in the following way. The Right Ascension and Declination of OJ 287 (0851+202) and the Declination of CTD 20 (0234+285), which are among the best observed sources in the DSN catalog and are primary sources in the 1992 realization of the IERS Celestial Reference Frame, were held fixed at their values in that frame as specified in the set of radio source coordinates RSC(IERS)92 C 01 (IERS, 1992, Table C-4). The formal errors of these three source coordinates are properly zero, but in order to convey the quality of determination of these two sources we have replaced these three zeros in our source list RSC(JPL)93 R 01 by the formal errors for these three coordinates from a similar solution that had three coordinates of two different well-observed sources held fixed; we have similarly replaced the two correlation coefficients between Right Ascension and Declination for these two sources.
8. The reference epoch of the JPL 1993-1 celestial system was J2000, and the definition of sidereal time was a function of the estimated precession constant (Severs, 1991, sections 2.6.1 and 2.9.3.3).

This year we have used the MODEST option to perform the general relativity calculations according to the "TDT spatial coordinates" convention (Severs, 1991). This choice has a small effect on the length scale of the Set of Station Coordinates. The relativity model used is essentially equivalent to the "consensus model" described by Eubanks (1991) . As a result, the estimated Set of Station Coordinates has the scale of a geocentric coordinate system using a time scale consistent with International Atomic Time.

The model of the celestial motion of the CEP obtained as part of the JPL 1993-1 catalog solution is presented below as adjustments to the IAU precession and ZMOA-1990-2 nutation coefficients along with two offset parameters which represent the estimated position of the (mean) CEP at epoch J2000 as expressed in the coordinate system of the radio sources. A positive X-offset represents a displacement of the CEP toward 18 hours Right Ascension, and a positive Y-offset represents a displacement of the CEP toward 0 hours Right Ascension. This year the CEP-motion model includes a term representing a secular rate in obliquity. Also included is an empirical term with a period of -429.8

days (for the origin of this particular value of period, see (Herring et al., 1991; Herring, 1991)). Only those nutation terms listed below were adjusted in the catalog solution. Two sets of standard errors are presented; the "formal" errors are just the formal errors from the catalog solution, and the "generalized" errors are the formal errors from a similar solution which also estimated additional components with periods of 121.75, 27.55, 13.63, and 9.13 days as well as both but-of-phase nutations for all] ten periods.

Celestial Ephemeris Pole Motion Model
(nutation relative to ZMOA-1990-2)

IAU-Index	Period	Phase	Component	Adjustment	Formal Error	Generalized Error
		days		mas	mas	mas
			Longitude	-3.30/yr	0.08/yr	0.18/yr
			Obliquity	-0.26/yr	0.07/yr	0.07/yr
			L sin eps	-18.87	0.43	1.01
			Obliquity	+ 4.63	0.91	0.95
1	-6798.38	In	Longitude	- 1.35	0.36	0.93
			Obliquity	- 0.07	0.20	0.21
		out	Longitude	+ 1.42	0.26	0.56
			Obliquity	- 0.05	0.33	0.35
2	-3399.19	In	Obliquity	- 0.18	0.10	0.10
		Out	Longitude	- 0.91	0.20	0.27
			Obliquity	+ 0.11	0.14	0.14
10	365.26	In	Longitude	- 0.54	0.09	0.11.
			Obliquity	+ 0.01	0.03	0.04
		out	Longitude	+ 0.66	0.09	0.10
			Obliquity	- 0.01	0.04	0.04
9	182.62	In	Longitude	+ 0.00	0.07	0.08
			Obliquity	- 0.05	0.03	0.03
		out	Longitude	+ 0.20	0.07	0.07
			Obliquity	+ 0.05	0.03	0.03
31	13.66	In	Longitude	- 0.20	0.06	0.15
			Obliquity	+ 0.12	0.03	0.05
		out	Longitude	+ 0.44	0.07	0.13
			Obliquity	+ 0.08	0.02	0.06
	-429.8	In	Longitude	+ 0.02	0.08	0.09
			Obliquity	- 0.02	0.04	0.04
		out	Longitude	- 0.62	0.10	0.11
			Obliquity	- 0.14	0.03	0.03

The parametric model for the nearly-diurnal and nearly-semidiurnal tidal frequency variations of UT1 and polar motion obtained as part of the JPL 1.993-1 catalog solution is presented below. The argument

conventions used here are those of Severs et al. (1992). The formal errors of these parameters range from 14 to 56 microarcseconds but realistic uncertainties are probably about 75 microarcseconds (one standard deviation).

Short Period Tidal ERP Variations

Term	Period (hours)	UT1 (microseconds)		Polar Motion		Phase	
		Cosine	Sine	Amplitude (microarcseconds)	prograde retrograde	prograde	retrograde
K2	11.96724	- 0.1	5.2	40	77	54	243
S2	12.00000	2.6	12.9	49	151	42	310
M2	12.42060	-10.0	24.2	92	273	121	276
N2	12.65835	- 1.1	2.4	34	24	96	224
K1	23.93447	13.3	24.5	194	0	155	*
P1	24.06589	- 5.5	- 4.3	61	0	5	*
O1	25.81934	-14.4	-15.2	163	0	311	*
Q1	26.86836	1.9	- 2.7	15	0	297	*

For accurate interpretation of the UTO and DPHI values reported here, one should use accurate values of the latitude and longitude of the baseline vector; these can be calculated for each station pair from the SSC estimated in the JPL 1993-1 catalog solution and reported here. Approximate values are:

Baseline	Latitude (degrees)	Longitude (degrees)
Australia-California	- 43.97	+106.05
Spain-California	+ 2.99	+ 30.73
Spain-Australia	+ 38.50	- 18.10

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SUPPLEMENTARY STATISTICS FOR
DEEP SPACE NETWORK VLBI EARTH ORIENTATION DATA SERIES

EOP(JPL) 93 R 01

JPL TEMPO + CAT M&E EARTH ORIENTATION RESULTS
10/28/78 - 3/12/93

ANNUAL92 IERS REPORT

STATISTICS TABLE

PROVIDES INFORMATION ON RESIDUAL SCATTER
TOGETHER WITH EARTH ORIENTATION COVARIANCE EIGEN-ANALYSIS

POST FIT RESIDUAL STATISTICS :

RMs = ROOT MEAN SQUARE OF POSTFIT RESIDUALS
UNITS ARE NANOSECONDS AND PICOSECONDS/SECOND
WRMS = ROOT MEAN SQUARE (RESIDUAL / ERROR)
N = NUMBER OBSERVATIONS

EARTH ORIENTATION EIGEN-ANALYSIS :

- PROVIDES ERROR ELLIPSE FOR BASELINE UTO
AND VARIATION OF LATITUDE
- ERROR ELLIPSE AXES ARE IN MILLIARCSECONDS

E1 = STANDARD ERROR ALONG MINOR AXIS OF ERROR ELLIPSE
ACCURACY IN WELL DETERMINED DIRECTION

E2 = STANDARD ERROR ALONG MAJOR AXIS OF ERROR ELLIPSE

ANGLE = ANGLE (IN DEGREES) BETWEEN BASELINE VARIATION
OF LATITUDE AND THE ERROR ELLIPSE MAJOR AXIS
ANGLE IS POSITIVE TOWARDS POSITIVE UTO

DATE	BASE-LINE	BAND	DELAY RESIDUALS			RATE RESIDUALS			ERROR ELLIPSE		
			RMs	WRMS	N NSEC	RMs	WRMS	N PSEC/SEC	E1 MAS	E2 MAS	ANGLE DEGREES
781028	14/43	Sx	0.32	0.85	95	0.11	0.98	95	0.4	1.2	-86.0
7811 4	14/43	Sx	0.32	0.76	23	0.10	1.04	23	0.5	2.1	88.2
781231	14/43	Sx	0.34	0.85	115	0.13	0.96	115	0.3	1.1.	-88.6
791123	14/43	Sx	0.58	0.78	35	0.20	0.95	35	1.8	5.4	85.0
791126	14/63	Sx	0.54	0.89	111	0.13	0.98	111	0.6	2.4	-42.6
791220	14/43	Sx	0.51	0.92	134	0.14	1.00	134	0.3	1.3	89.4
791221	14/63	Sx	0.57	0.83	33	0.11	1.04	33	2.1	8.8	-53.2
791.227	14/63	Sx	0.55	0.86	68	0.12	1.05	68	1.2	4.0	-39.9
791229	14/43	Sx	0.41	0.77	43	0.11	0.99	43	0.6	2.1	-88.9
80 112	14/43	Sx	0.44	0.85	109	0.21	1.02	109	0.5	1.7	87.8
80 125	14/63	Sx	0.59	0.79	48	0.08	1.01	48	1.5	5.6	-40.8
80 1.27	14/43	Sx	0.39	0.84	42	0.16	1.03	42	0.7	2.6	86.9
80 214	14/43	Sx	0.38	0.84	50	0.11	1.06	50	0.6	1.9	-89.0
80 214	14/63	Sx	0.55	0.88	135	0.10	0.98	135	0.7	2.5	-42.1
80 223	14/43	Sx	0.45	0.89	105	0.14	1.00	105	0.3	1.4	85.6
80 224	14/63	Sx	0.41	0.80	47	0.11	1.03	47	1.2	4.3	-41.8

30	719	.4/63	Sx	0.32	0.77	9	0.09	0.80	9	1.8	7.0	-54.3
30	725	14/63	Sx	0.19	0.52	5	0.12	1.09	7	3.3	29.2	-68.0
30	824	14/43	Sx	0.39	0.65	10	0.38	0.97	8	2.6	14.4	-77.5
30	824	14/63	Sx	0.31	0.59	5	0.09	0.77	7	3.3	31.4	-67.8
30	923	14/43	Sx	0.38	0.81	8	0.14	1.30	8	2.6	8.1	-66.3
30	924	14/63	Sx	0.25	0.35	5	0.15	1.29	6	7.6	22.2	-59.5
30	930	1.4/43	Sx	0.23	0.47	11	0.06	0.51	11	1.4	6.3	-81.4
30	1016	14/43	Sx	0.31	0.62	9	0.08	0.73	10	2.5	7.5	-80.1
30	1017	14/63	Sx	0.16	0.19	6	0.14	1.21	8	3.6	11.6	-44.8
30	1122	14/43	Sx	0.30	0.50	12	0.16	1.50	12	1.5	6.0	-76.1
30	12	14/43	Sx	0.23	0.47	5	0.04	0.37	6	4.2	10.1	-88.9
30	1214	1.4/43	Sx	0.25	0.63	8	0.15	1.31	9	2.3	15.4	-58.8
30	1214	14/63	Sx	0.15	0.14	5	0.44	1.10	5	4.8	24.5	-42.8
30	1223	14/43	Sx	0.31	0.53	6	0.04	0.40	6	4.9	30.1	67.3
31	24	1.4/43	Sx	0.46	0.83	10	0.04	0.39	6	2.3	5.4	-85.2
31	211	14/43	Sx	0.52	0.76	7	0.11	0.66	7	3.1	9.4	-74.0
31	219	14/43	Sx	0.55	0.89	5	0.09	0.81	5	21.0	31.6	64.3
91	31	1.4/63	Sx	0.43	0.41	6	0.05	0.44	6	6.2	23.7	-58.6
81	510	14/63	Sx	0.52	0.47	6	0.44	1.07	3	5.9	28.5	-55.2
81	516	14/43	Sx	0.36	1.14	11	0.11	1.05	12	1.5	5.0	77.4
81	531	14/43	Sx	0.37	0.40	11	0.17	0.44	11	2.2	8.3	79.6
81	531	14/63	Sx	0.17	0.16	6	0.07	0.63	5	7.5	13.9	-19.5
81	614	14/43	Sx	0.26	0.81	10	0.08	0.64	10	2.2	5.3	74.3
81	614	14/63	Sx	0.33	0.36	5	0.08	0.61	5	16.4	49.6	-72.0
81	719	14/43	Sx	0.31	0.72	9	0.06	0.54	12	1.8	6.0	69.9
81	719	14/63	Sx	0.31	0.67	6	0.11	0.95	7	3.5	13.6	-67.6
81	726	14/43	Sx	0.28	0.84	12	0.08	0.77	12	1.4	5.6	-71.3
81	81	14/43	Sx	0.27	0.86	11	0.08	0.66	11	1.0	4.6	-78.6
81	82	14/63	Sx	0.22	0.57	8	0.11	1.00	8	1.6	6.9	-42.5
8112	9	13/43	Sx	0.65	0.86	47	0.08	1.01	47	0.6	2.2	-83.5
81121.8		14/43	Sx	0.51	1.59	9	0.10	0.83	9	1.9	7.6	-88.2
82	213	63/43	Sx	0.44	0.80	6	0.06	0.49	6	4.7	15.2	-55.0
82	218	14/63	Sx	0.20	0.60	6	0.08	0.78	6	3.0	6.9	-40.9
82	123	14/43	Sx	0.16	0.51	10	0.08	0.71	10	1.8	5.2	-89.5
82	228	14/43	Sx	0.41	0.82	13	0.06	0.54	12	1.3	6.2	-83.2
82	213	14/63	Sx	0.26	0.76	17	0.15	1.33	15	1.1	4.5	-44.8
82	220	14/63	Sx	0.28	0.77	11	0.07	0.61	11	1.0	4.5	-38.3
82	221	14/43	Sx	0.37	0.86	11	0.09	0.77	12	1.2	3.2	-86.2
82	228	14/43	Sx	0.45	1.03	16	0.11	0.98	16	2.2	8.0	-71.3
82	326	14/63	Sx	0.14	0.47	13	0.10	0.94	12	1.1	4.8	-37.2
82	329	14/43	Sx	0.34	0.66	9	0.10	0.93	13	1.9	6.0	-75.8
82	248	14/43	Sx	0.29	0.71	16	0.12	1.07	16	0.6	2.7	-87.5
82	412	14/63	Sx	0.06	0.23	9	0.04	0.38	10	1.3	7.9	-29.3
82	257	14/63	Sx	0.49	1.02	11	0.05	0.49	11	1.3	4.9	-43.0
82	51.3	14/43	Sx	0.25	0.55	10	0.12	1.12	11	1.5	6.1	-82.2
82	523	14/63	Sx	0.34	0.96	13	0.08	0.73	12	1.1	3.5	-37.9
82	524	14/43	Sx	0.25	0.64	16	0.09	0.76	16	0.7	2.7	-87.4
82	529	14/63	Sx	0.26	0.39	5	0.11	0.91	5	9.9	61.5	-30.0
82	271	13/43	Sx	0.48	0.84	93	0.05	1.02	93	0.5	1.4	-86.3
82	272	12/43	Sx	0.30	0.53	9	0.08	0.64	11	2.3	7.4	-71.2
82	274	13/63	Sx	0.62	0.87	110	0.22	0.96	110	0.8	3.1	-45.7
82	717	12/43	Sx	0.37	0.43	8	0.26	0.63	8	3.0	14.5	86.2
82	718	12/63	Sx	0.31	0.52	10	0.11	0.91	12	4.2	18.7	-55.8
82	813	12/43	Sx	0.16	0.21	5	0.52	1.30	4	4.3	21.6	81.4
82	815	12/63	Sx	0.24	0.46	8	0.06	0.53	8	4.2	14.0	-58.0
82	817	13/63	Sx	0.52	0.90	73	0.08	1.05	73	1.0	3.3	--45.2

32	911	14/43	Sx	0.64	0.52	8	0.31	0.78	6	6.2	19.0	-83.3
32	919	14/61	Sx	0.30	0.42	6	0.15	1.36	6	6.4	41.3	-59.6
32	926	14/43	Sx	0.31	0.19	6	0.32	0.79	8	6.4	27.5	89.4
32	926	14/61	Sx	0.48	0.69	6	0.16	1.41	7	7.9	22.0	-56.7
3210	3	14/61	Sx	0.43	0.76	10	0.06	0.53	11	3.2	19.6	-56.0
B210	4	14/61	Sx	0.40	0.81	115	0.09	1.04	115	0.8	3.2	-54.7
B21023		14/43	Sx	0.68	0.56	9	0.27	0.69	7	6.2	19.8	-81.4
8211	6	14/43	Sx	0.63	1.14	15	0.51	1.27	13	1.8	8.3	83.8
8211	6	14/61	Sx	0.37	0.88	13	0.07	0.63	17	2.5	9.7	-50.7
821110		14/61	Sx	0.50	0.83	18	0.09	0.77	18	2.2	9.3	-44.0
821114		14/43	Sx	0.77	1.15	15	0.35	0.89	10	1.4	6.1	89.4
821125		14/63	Sx	0.31	0.68	16	0.07	0.56	16	1.3	4.6	-36.0
821128		14/63	Sx	0.27	0.91	209	0.12	0.98	209	0.3	1.1	-38.9
821130		14/43	Sx	0.39	0.86	113	0.30	0.97	113	0.6	2.0	89.5
8212	4	14/63	Sx	0.49	1.06	12	0.06	0.55	14	1.5	5.8	-48.2
821212		14/63	Sx	0.55	0.79	15	0.08	0.67	16	1.7	4.8	-45.8
821217		14/43	Sx	0.34	0.79	14	0.06	0.50	16	0.8	3.5	88.8
821219		14/63	Sx	0.20	0.35	11	0.03	0.23	13	1.7	6.6	-50.1
8312	14/63	Sx	0.37	0.53	18	0.03	0.27	19	1.2	4.1	-41.1	
8318	14/63	Sx	0.38	0.88	14	0.07	0.60	17	1.3	4.3	-41.1	
83111	14/43	Sx	0.20	0.60	18	0.09	0.83	18	0.7	2.6	-84.1	
83123	14/43	Sx	0.19	0.78	118	0.17	0.98	118	0.3	1.1	88.1	
83124	14/43	Sx	0.19	0.53	15	0.08	0.75	15	0.8	4.1	87.8	
83125	14/63	Sx	0.22	0.90	225	0.10	1.00	225	0.2	0.9	-37.9	
83129	14/43	Sx	0.25	0.55	16	0.15	1.40	17	1.1	4.4	88.2	
83129	14/63	Sx	0.29	0.54	14	0.06	0.55	13	1.4	4.0	-37.8	
8325	14/43	Sx	0.39	0.66	18	0.14	1.19	13	1.1	4.5	88.9	
8326	14/63	Sx	0.21	0.47	18	0.09	0.81	17	1.0	3.4	-39.8	
83215	14/42	Sx	0.45	0.80	19	0.07	0.66	18	0.9	3.8	-88.2	
83222	14/63	Sx	0.39	1.33	8	0.04	0.40	9	2.4	10.3	-14.1	
8335	14/63	Sx	0.40	0.59	16	0.06	0.50	19	1.2	3.9	-39.2	
83325	14/42	Sx	0.18	0.29	9	0.17	0.43	7	4.4	24.7	71.3	
83325	14/63	Sx	0.52	0.67	9	0.09	0.73	14	2.8	7.2	-42.8	
8348	14/63	Sx	0.19	0.83	208	0.09	0.96	208	0.2	0.9	-40.4	
83413	14/63	Sx	0.46	0.60	17	0.09	0.67	19	1.5	4.4	-38.9	
83423	14/42	Sx	0.56	0.38	10	0.25	1.63	15	2.7	8.1	-75.3	
83423	14/63	Sx	0.43	0.72	14	0.13	1.14	15	1.1	4.1	-37.4	
8354	14/42	Sx	0.40	0.46	10	0.16	1.30	12	1.9	7.5	-88.6	
8354	14/63	Sx	0.52	0.84	13	0.14	1.19	16	1.2	4.6	-35.1	
8352(	14/43	Sx	0.17	0.72	205	0.10	0.98	205	0.2	0.6	86.3
83522	14/63	Sx	0.24	0.88	184	0.10	0.97	184	0.4	1.2	-43.4	
83523	14/43	Sx	0.47	1.30	15	0.09	0.82	16	1.0	3.9	84.2	
83524	14/63	Sx	0.33	0.71	16	0.07	0.53	19	1.2	4.1	-35.0	
8362	14/43	Sx	0.31	0.59	14	0.06	0.53	20	0.8	4.0	-88.6	
8362	14/63	Sx	0.24	0.69	6	0.14	1.29	6	4.5	6.7	-24.1	
837[	12/43	Sx	0.60	0.69	20	0.22	0.95	17	2.4	9.8	-89.1
83716	12/63	Sx	0.50	0.62	8	0.21	0.83	10	6.1	31.4	-52.9	
83717	12/43	Sx	0.79	1.22	14	0.13	0.55	10	1.6	7.4	-85.2	
83725	12/43	Sx	0.75	0.81	15	0.28	1.13	13	2.3	9.8	83.6	
83726	12/63	Sx	0.58	0.66	13	0.22	0.95	14	4.8	15.3	-58.2	
8383	12/43	Sx	0.28	0.37	11	0.26	1.10	11	3.1	13.1	-74.1	
83811	12/63	Sx	0.54	0.59	12	0.23	0.95	12	4.0	23.2	-58.8	
8382(	12/63	Sx	1.30	1.18	10	0.20	0.80	17	4.1	20.1.	-57.9
83821	12/43	Sx	0.26	0.25	15	0.19	0.82	15	2.4	1.0.5	-78.3	
83828	12/63	Sx	0.77	1.07	15	0.32	1.26	14	3.4	17.7	-59.4	
83829	12/43	Sx	0.47	0.68	16	0.22	0.91	17	2.2	8.8	-78.8	

33	9	6	L2/63	Sx	0.86	1.21	13	0.27	1.05	14	3.9	19.2	-59.5
33	9	7	L2/43	Sx	0.62	0.93	15	0.18	0.78	12	2.2	7.7	-84.2
33	916		L2/43	Sx	0.69	0.54	12	0.30	1.17	12	3.7	14.0	-77.3
33	923		L2/43	Sx	0.74	0.56	14	0.30	1.25	17	2.7	8.9	-82.7
33	923		L2/63	Sx	0.46	0.68	14	0.22	0.94	15	3.7	20.3	-61.7
33	929		L2/63	Sx	0.51	0.75	13	0.22	0.93	15	3.4	12.2	-53.8
33	930		12/43	Sx	0.40	0.57	13	0.22	0.96	15	2.7	9.3	-76.3
3310	6		12/63	Sx	0.65	0.72	13	0.16	0.69	15	3.7	16.7	-58.9
3310	7		12/43	Sx	0.59	1.00	14	0.19	0.81	13	2.6	8.6	89.0
3310	8		43/63	Sx	0.69	0.61	5	0.16	1.13	6	7.1	18.7	-64.7
331013			12/63	Sx	0.57	0.67	16	0.20	0.71	16	3.6	12.9	-51.9
B31014			12/43	Sx	0.36	0.56	14	0.17	0.74	12	2.9	12.3	-67.3
B31020			12/63	Sx	0.34	0.47	7	0.19	0.84	5	4.4	17.3	-55.7
B31021			12/43	Sx	0.39	0.57	20	0.20	0.85	17	2.2	7.2	90.0
B31027			12/63	Sx	0.52	0.67	15	0.19	0.82	15	3.0	12.0	-53.4
B31028			12/43	Sx	0.42	0.59	16	0.14	0.61	12	2.0	8.1	-89.5
8311	4		12/63	Sx	0.37	0.50	16	0.08	0.61	20	3.5	11.1	-48.8
8311	5		12/43	Sx	0.42	1.15	19	0.13	1.14	20	1.2	4.7	-83.2
831112			12/63	Sx	0.37	0.46	11	0.07	0.64	11	2.7	9.5	-53.1
831.13			12/43	Sx	0.28	0.60	16	0.14	1.09	17	1.7	4.3	-82.8
831118			12/43	Sx	0.34	0.89	148	0.30	0.99	148	0.4	1.7	-86.3
831119			12/63	Sx	0.31	0.87	203	0.10	0.99	203	0.4	1.5	-54.7
831120			12/43	Sx	0.26	0.63	18	0.13	1.19	19	1.2	4.4	89.4
831120			12/6 3	Sx	0.38	0.58	19	0.07	0.55	20	1.9	8.1	-52.8
831127			12/4 3	Sx	0.34	0.79	18	0.06	0.51	18	1.6	4.9	-85.3
831127			12/63	Sx	0.37	0.49	12	0.09	0.79	13	2.2	9.3	-54.8
831.2	4		12/63	Sx	0.38	0.72	12	0.12	0.97	18	2.7	13.8	-60.9
831211			12/43	Sx	0.22	0.54	16	0.10	0.81	18	1.5	5.4	-76.3
831211			12/63	Sx	0.22	0.55	11	0.07	0.58	14	2.1	11.1	-53.9
831216			12/63	Sx	0.35	0.57	14	0.09	0.72	16	2.4	10.6	-54.8
831217			12/6 3	Sx	0.29	0.76	182	0.08	1.00	182	0.4	1.6	-54.4
831218			12/4 3	Sx	0.32	0.88	170	0.08	0.97	170	0.3	1.2	-85.9
831224			12/43	Sx	0.31	0.66	20	0.14	1.26	20	1.3	4.1	-87.4
831224			12/6 3	SX	0.17	0.45	17	0.06	0.46	20	1.9	8.0	-50.5
831229			12/6 3	Sx	0.45	0.63	18	0.12	0.87	20	1.7	6.5	-52.5
831230			12/43	Sx	0.34	0.70	18	0.12	0.91	19	1.2	5.0	87.7
84	113		12/43	Sx	0.32	0.54	9	0.12	0.93	11	2.0	6.3	-88.1
84	122		12/43	Sx	0.26	0.50	7	0.05	0.50	8	2.2	7.6	-83.7
84	122		12/6 3	Sx	0.35	0.58	13	0.07	0.52	15	2.8	9.8	-55"7
84	129		12/43	Sx	0.30	0.36	9	0.14	1.06	14	3.4	8.4	-81, 5
84	225		12/4 3	Sx	0.33	0.58	1.2	0.14	1.20	12	2.0	6.6	-80.9
84	225		12/6 3	Sx	0.45	0.55	18	0.05	0.37	18	1.7	7.4	-50.6
84	211		12/63	Sx	0.21	0.43	11	0.08	0.53	18	2.6	10.2	-54.0
84	211		12/63	Sx	0.32	0.83	357	0.08	0.98	357	0.3	1.1	-53.9
84	212		12/43	Sx	0.23	0.72	206	0.17	0.95	206	0.3	1.1.	-87.3
84	212		12/4 3	Sx	0.36	0.53	17	0.17	1.52	15	1.8	5.4	-78.4
84	219		12/43	Sx	0.30	0.49	17	0.06	0.50	16	1..4	4.9	-87.4
84	219		12/63	Sx	0.50	0.81	8	0.03	0.28	10	3.7	13.6	-52.5
84	226		12/6 3	Sx	0.19	0.48	11	0.05	0.41	17	3.1	11.2	-58.6
84	34		12/63	Sx	0.34	0.58	13	0.07	0.51	18	3.2	13.2	-57 .9
84	311		12/43	Sx	0.65	0.83	11	0.17	1..34	13	2.7	9.6	83.3
84	311		12/6 3	Sx	0.67	0.61	15	0.08	0.66	19	2.8	10.5	-56.6
84	311		43/63	Sx	0.95	1.08	7	0.09	0.64	8	5.9	20.3	-83.4
84	318		12/43	Sx	0.51	1.01	10	0.13	1.14	11	2.2	8.2	83.7
84	318		12/63	Sx	0.24	0.47	15	0.07	0.63	19	2.7	10.4	-48.6
84	324		12/63	Sx	0.20	0.41.	9	0.09	0.74	13	3.5	10.6	-60.0

34	324	L2/63	Sx	0.38	0.85	313	0.11	0.98	313	0.4	1.6	-57.1
34	325	L2/43	Sx	0.30	0.89	288	0.13	1.00	288	0.2	0.9	-87.3
34	325	12/43	Sx	0.40	0.86	18	0.18	1.63	17	1.6	6.4	-88.4
34	41	12/43	Sx	0.33	0.67	17	0.09	0.83	19	1.0	3.7	-88.6
34	48	12/43	Sx	0.54	1.15	16	0.12	1.11	16	1.1	4.1	-84.4
34	49	12/63	Sx	0.44	0.70	19	0.13	1.07	20	2.2	8.4	-51.4
B4	410	L 2/43	Sx	0.24	0.51	16	0.10	0.94	18	1.3	4.6	-87.4
B4	411	12/63	Sx	0.43	0.53	20	0.09	0.76	20	2.2	8.2	-49.1
B4	412	12/43	Sx	0.23	0.51	18	0.12	1.09	19	1.2	4.4	-88.6
B4	413	12/6 3	Sx	0.39	0.54	12	0.07	0.57	15	3.2	11.9	-50.4
84	414	12/43	Sx	0.37	0.72	17	0.09	0.80	18	1.3	5.2	-89.9
84	415	12/63	Sx	0.36	0.43	12	0.12	1.03	13	3.3	11.1	-49.7
84	416	12/43	Sx	0.47	0.80	18	0.10	0.83	20	1.3	5.1	89.2
84	417	12/63	Sx	0.34	0.11	7	0.18	1.23	8	13.7	31.5	-47.5
84	420	12/4 3	Sx	0.43	0.57	14	0.14	1.22	13	2.1	8.1	79.6
84	421	12/63	Sx	0.27	0.35	18	0.08	0.64	20	2.3	7.9	-48.2
84	422	12/43	Sx	0.29	0.56	11	0.09	0.76	12	1.9	7.5	85.2
84	429	1. 2/43	Sx	0.29	0.56	14	0.12	0.89	15	1.5	5.6	-89.8
84	429	12/63	Sx	0.24	0.31	5	0.05	0.42	5	13.2	27.4	-41.7
84	55	12/43	Sx	0.35	0.52	15	0.11	0.89	15	1.2	5.3	-81.1
84	512	12/63	Sx	0.27	0.74	191	0.10	0.98	191	0.4	1.7	-54.4
84	512	12/63	Sx	0.31	0.58	12	0.09	0.79	14	2.9	16.3	-60.2
84	513	12/4 3	Sx	0.18	0.51	21	0.21	0.97	21	0.7	3.5	-85.8
84	513	12/43	Sx	0.37	0.72	13	0.10	0.91	12	1.3	4.3	-83.7
84	519	12/63	Sx	0.60	0.96	13	0.12	1.06	14	3.0	12.8	-57.1
84	52C	12/43	Sx	0.29	0.56	17	0.11	1.00	19	1.2	3.8	-86.7
84	527	12/4 3	Sx	0.27	0.49	16	0.12	1.09	19	1.3	4.2	-83.7
84	6?	12/43	Sx	0.38	0.75	17	0.12	1.05	18	1.1	3.9	87.7
84	6 3	12/63	Sx	0.33	0.71	14	0.13	1.13	18	2.4	9.7	-60.6
84	610	12/43	Sx	0.35	0.82	14	0.08	0.77	17	1.4	5.6	-85.8
84	610	12/63	Sx	0.75	0.90	15	0.12	0.99	17	2.3	9.6	-51.9
84	615	12/43	Sx	0.18	0.48	16	0.10	0.91	17	1.2	4.0	-86.1
84	623	12/6 3	Sx	0.42	0.96	12	0.12	1.02	13	3.2	15.3	-60.4
84	624	12/43	Sx	0.27	0.68	17	0.15	1.25	18	1.2	5.2	87.1
84	7 7	12/63	Sx	0.27	0.56	12	0.17	1.39	15	3.6	15.6	-61.2
84	7 E	12/43	Sx	0.44	0.90	15	0.12	0.97	18	1.8	7.8	-68.0
84	714	12/63	Sx	0.35	0.74	163	0.10	0.98	163	0.5	2.1	-57.3
84	714	12/63	Sx	0.49	0.97	16	0.10	0.86	18	2.1	7.9	-58.9
84	715	12/4 3	Sx	0.35	0.75	115	0.11	1.01	115	0.4	1.6	-88.3
84	722	12/43	Sx	0.30	0.42	12	0.15	1.15	17	2.2	8.2	-70.6
84	729	12/6 3	Sx	0.40	0.60	15	0.09	0.77	14	2.8	13.7	-57.6
84	84	12/63	Sx	0.20	0.49	8	0.20	1.48	15	3.3	15.5	-62.8
84	812	12/63	Sx	0.68	1.12	18	0.07	0.64	19	2.3	9.5	-54 ,6
84	822	12/6 3	Sx	0.23	0.65	9	0.14	1.23	10	2.8	11.3	-55.4
84	825	12/63	Sx	0.34	0.65	15	0.16	1.47	15	2.2	9.0	-56.3
84	95	42/63	Sx	0.29	0.23	5	0.12	0.55	5	7.9	20.7	82.3
84	922	4 2/63	Sx	0.48	0.57	7	0.17	1.18	8	6.1	13.6	62 ,6
8411	4	14/63	Sx	0.59	1.20	13	0.12	0.93	15	2.9	8.7	-44.3
841129	14/42	Sx	0.80	0.71	12	0.10	0.71	14	2.5	8.2	-87.1	
8412 2	14/63	Sx	0.68	0.48	9	0.14	1.09	11	9.4	23.7	-36.8	
8412 9	14/63	Sx	0.33	0.46	12	0.07	0.52	17	2.3	9.7	-54.3	
85	113	14/4 2	Sx	0.65	0.59	8	0.10	0.84	11	3.4	8.1	-89.8
85	113	14/63	Sx	0.17	0.71	6	0.07	0.60	6	2.3	8.2	-44.1
85	126	14/42	Sx	0.83	0.64	12	0.09	0.74	16	2.6	8.2	74.1
85	210	14/42	Sx	0.28	0.60	8	0.07	0.57	9	2.1	7.9	84.5
85	324	14/61	Sx	0.34	0.67	17	0.09	0.83	18	2.0	5.8	-54.8

85	330	14/61	Sx	0.30	0.65	16	0.09	0.77	16	1.8	5.5	-50.8
B5	427	14/43	Sx	0.14	0.53	15	0.08	0.76	15	0.9	4.3	-85.6
85	512	14/61	Sx	0.24	0.65	18	0.09	0.73	18	1.6	7.7	-50.7
B5	526	14/43	Sx	0.18	0.68	18	0.12	1.08	18	0.7	3.1	-88.5
05	531.	14/43	Sx	0.46	1.00	17	0.14	1.27	17	0.8	3.1	-85.1
85	720	14/43	Sx	0.33	0.44	4	0.10	0.88	4	8.7	16.5	-9.8
85	810	14/43	Sx	0.28	0.87	13	0.07	0.62	14	1.4	5.7	-74.4
85	928	14/63	Sx	0.46	0.88	206	0.17	0.98	206	0.6	1.9	-47.9
85	929	14/43	Sx	0.48	0.88	210	0.20	0.98	210	0.4	1.4	88.1
851.019	14/63	Sx	0.66	0.71	11	0.13	0.91	11	1.9	7.6	-49.7	
851026	14/63	Sx	0.41	0.79	11	0.16	1.39	11	1.5	6.4	-36.9	
851027	43/14	Sx	0.69	0.81	17	0.09	0.58	17	1.5	5.0	-86.5	
851110	14/43	Sx	0.57	1.42	14	0.07	0.65	14	1.3	4.4	87.9	
851124	14/43	Sx	0.17	0.48	19	0.09	0.83	19	0.8	3.3	89.3	
8615	14/63	Sx	0.68	1.04	14	0.19	1.40	14	1.7	6.8	-38.6	
8621	14/43	Sx	0.18	0.44	6	0.05	0.50	6	1.8	8.8	78.0	
8628	14/43	Sx	0.38	0.71	17	0.13	1.02	17	0.8	3.5	-88.9	
86215	14/43	Sx	0.71	0.77	13	0.23	1.95	13	1.4	4.9	-84.4	
86215	14/63	Sx	1.12	1.12	18	0.27	1.69	18	1.8	6.1	-36.1	
86222	14/43	Sx	0.38	1.06	17	0.13	1.23	17	0.7	3.7	-87.2	
86224	14/63	Sx	0.61	0.93	12	0.17	1.51	12	2.3	6.1	-47.2	
8631	14/43	Sx	0.16	0.61	7	0.07	0.64	7	0.9	5.4	87.8	
8631	14/63	Sx	0.51	0.69	16	0.15	1.28	16	2.3	6.7	-47.8	
8638	14/43	Sx	0.28	0.72	19	0.12	1.09	19	0.9	3.7	-89.3	
8639	14/63	Sx	0.38	0.77	15	0.16	1.46	15	1.5	6.1	-31.6	
86315	14/63	Sx	0.35	0.64	18	0.25	1.39	18	1.4	5.4	-32.8	
86322	14/63	Sx	0.51	0.59	15	0.15	1.31	15	2.2	7.6	-31.1	
86323	14/43	Sx	0.26	0.83	18	0.19	1.74	18	0.7	2.9	-84.7	
86329	14/43	Sx	0.19	0.67	15	0.09	0.78	15	0.7	3.3	87.5	
86330	14/63	Sx	0.46	0.98	18	0.09	0.81	18	1.4	4.5	-39.5	
8645	14/43	Sx	0.53	0.96	19	0.13	1.13	19	0.7	3.3	88.7	
8646	14/63	Sx	0.96	1.03	12	0.13	1.21	12	3.8	11.7	-40.6	
86412	14/43	Sx	0.27	0.66	19	0.18	1.70	19	0.8	2.9	-86.0	
86414	14/63	Sx	0.49	1.14	14	0.18	1.47	14	1.4	5.7	-32.7	
86419	14/43	Sx	0.61	1.03	12	0.07	0.64	12	0.9	4.3	86.0	
86420	14/63	Sx	0.22	0.65	14	0.15	1.38	14	2.2	8.6	-43.7	
86426	14/43	Sx	0.22	0.71	10	0.11	0.98	10	1.1	4.6	-88.6	
86427	14/63	Sx	0.49	0.65	16	0.11	0.98	16	1.4	6.1	-38.7	
8653	14/43	Sx	0.36	0.81	18	0.11	0.98	18	0.8	4.3	89.7	
8654	14/63	Sx	0.60	0.96	15	0.15	1.34	15	2.7	11.7	-48.8	
86510	14/43	Sx	0.20	0.62	18	0.13	1.19	18	0.7	3.3	83.9	
86615	14/63	Sx	0.58	0.82	18	0.11	0.97	18	1.2	5.5	-36.8	
86616	14/43	Sx	0.53	1.17	17	0.08	0.72	17	1.0	4.6	88.9	
86622	14/43	Sx	0.93	0.92	17	0.12	0.86	17	1.0	4.5	86.1	
86622	14/63	Sx	0.43	0.61	13	0.09	0.77	13	1.6	8.2	-38.5	
86628	14/63	Sx	0.61	1.06	71	0.24	1.04	71	0.9	3.4	-43.3	
86628	14/63	Sx	1.22	1.04	14	0.26	1.43	15	3.6	11.0	-52.3	
86629	14/43	Sx	0.37	0.89	166	0.19	0.98	166	0.4	1.5	88.1	
8677	14/43	Sx	0.44	0.83	20	0.10	0.72	20	1.3	5.3	85.5	
8678	14/63	Sx	0.62	0.88	18	0.22	1.57	18	1.6	6.0	-47.4	
86713	14/43	Sx	0.33	0.97	15	0.12	0.86	15	1.4	4.9	89.7	
86714	14/63	Sx	0.53	1.32	17	0.18	1.49	17	1.0	3.9	-38.1	
86720	14/43	Sx	0.42	1.04	19	0.06	0.52	19	1.2	4.3	-76.6	
86720	14/63	Sx	1.25	1.51	18	0.19	1.27	18	1.3	4.4	-36.2	
86726	14/43	Sx	0.28	0.76	19	0.08	0.71	19	0.7	3.8	85.3	
8682	14/43	Sx	0.33	1.11	19	0.12	0.94	19	0.7	3.6	85.6	

36	811	1.4/43	Sx	0.41	1.17	17	0.05	0.50	17	0.9	3.3	82.3
36	811	14/61	Sx	0.37	0.55	15	0.06	0.50	15	2.0	11.1	-45.5
36	816	14/43	Sx	0.34	0.91	185	0.14	0.97	185	0.3	1.2	84.7
36	816	14/43	Sx	0.41	0.95	18	0.09	0.81	18	0.8	2.6	-89.1
36	817	14/61	Sx	0.60	1.10	15	0.09	0.85	15	1.4	5.4	-36.2
36	830	14/43	Sx	0.44	0.82	9	0.12	0.90	12	1.8	7.5	-89.7
36	914	14/43	Sx	0.18	0.72	17	0.07	0.62	17	0.7	3.6	87.0
36	920	14/61	Sx	0.37	1.28	15	0.11	1.02	15	1.6	7.6	-51.9
36	922	14/43	Sx	0.25	1.00	17	0.06	0.60	17	0.7	3.1	81.8
36	928	14/43	Sx	0.18	0.74	18	0.09	0.87	18	0.6	3.6	89.2
B610	4	14/61	Sx	0.09	0.32	9	0.03	0.27	9	2.9	13.2	-51.2
B610	5	14/43	Sx	0.22	0.91	18	0.08	0.75	18	0.6	2.6	-85.0
B610	6	14/43	Sx	0.25	0.94	189	0.14	1.02	189	0.2	0.8	89.7
B61011		14/61	Sx	0.44	1.08	16	0.08	0.71	16	1.5	6.8	-52.1
B61012		14/43	Sx	0.16	0.66	16	0.18	1.71	16	0.7	3.1	80.7
861019		14/61	Sx	0.22	0.77	15	0.08	0.75	15	1.8	9.1	-52.3
B61026		14/61	Sx	0.73	1.16	17	0.05	0.40	17	1.7	8.5	-47.3
86112	2	14/61	Sx	0.30	0.90	17	0.08	0.70	17	1.2	9.4	-42.2
86119		14/61	Sx	0.58	1.02	16	0.05	0.46	16	1.7	8.6	-50.3
861117		14/61	Sx	0.42	1.13	17	0.08	0.68	17	1.7	8.0	-55.5
861123		14/43	Sx	0.27	0.92	145	0.11	1.00	145	0.2	1.0	85.9
861126		14/61	Sx	0.15	0.50	15	0.04	0.39	15	1.7	8.6	-51.2
861129		14/43	Sx	0.36	0.82	19	0.09	0.72	19	0.7	3.6	-89.9
861129		14/61	Sx	0.44	0.88	16	0.04	0.32	16	1.8	8.9	-52.7
861214		14/43	Sx	0.31	0.70	19	0.16	1.48	19	0.6	2.7	-83.2
861214		14/61	SX	0.31	0.71	18	0.04	0.37	18	1.0	8.7	-41.2
861220		14/43	Sx	0.70	0.65	14	0.11	0.74	14	2.0	7.4	80.6
861221		14/61	Sx	0.35	0.82	19	0.07	0.61	19	1.5	8.5	-49.6
861227		14/61	Sx	0.20	0.48	14	0.04	0.40	14	1.9	10.1	-57.4
87113		14/4:	Sx	0.46	0.99	16	0.32	1.18	16	1.0	6.0	-89.9
87114		14/61	Sx	0.26	0.93	16	0.05	0.44	1.6	1.5	7.6	-53.5
87119		14/61	Sx	0.40	0.72	17	0.08	0.66	17	1.7	8.2	-56.0
87119		14/43	Sx	0.33	1.01	19	0.13	1.19	19	0.8	3.9	88.1
87125		14/61	Sx	0.52	0.98	18	0.07	0.63	18	1.5	4.4	-47.5
87126		14/43	Sx	0.50	0.80	15	0.26	1.00	15	1.0	6.1	-88.9
87213		14/4:	SX	0.39	1.07	19	0.14	1.32	19	0.8	3.4	-88.6
87222		14/61	Sx	0.26	0.84	18	0.06	0.59	18	1.5	7.3	-56.4
87337		14/4:	Sx	0.26	0.68	17	0.06	0.56	17	1.3	4.4	-89.2
87315		14/4:	Sx	0.22	0.53	19	0.15	1.42	19	0.8	3.3	88.6
87321		14/61	Sx	0.41	0.99	15	0.11	0.99	15	2.1	8.3	-56.7
87329		14/61	Sx	0.34	0.95	12	0.09	0.80	12	2.6	9.5	-55.5
87411		14/61	Sx	0.52	1.02	15	0.06	0.54	15	1.9	7.4	-50.2
87444		14/4:	Sx	0.44	1.05	18	0.08	0.71	18	0.8	3.6	83.1
87411		14/4:	Sx	0.55	0.96	18	0.09	0.83	18	0.9	3.4	87.1
87411		14/61	Sx	0.29	0.93	1.8	0.08	0.72	18	1.7	4.8	-48.8
87418		14/61	Sx	0.19	0.62	12	0.10	0.95	12	2.1	6.8	-52.1
87419		14/4:	Sx	0.90	0.95	19	0.10	0.85	19	2.0	5.0	-89.5
87425		14/61	Sx	0.10	0.17	5	0.07	0.64	5	4.3	15.3	-29.4
87426		14/4:	Sx	0.48	1.75	20	0.09	0.79	20	0.8	3.6	-89.0
87558		14/4:	Sx	0.30	0.69	19	0.10	0.92	19	0.7	2.8	-89.3
87559		14/4:	Sx	0.21	0.85	104	0.12	0.97	104	0.3	1.2	89.0
87510		14/61	Sx	0.28	0.76	19	0.08	0.76	19	1..8	6.8	-56.6
87510		14/6:	Sx	0.23	0.89	193	0.12	0.97	193	0.3	1.1	-53.0
87517		14/61	Sx	0.60	0.88	19	0.09	0.78	19	1.7	4.6	-50.2
87518		14/4:	Sx	0.49	1.57	7	0.11	1.05	7	1.5	6.7	86.5
87522		14/61	Sx	0.32	0.99	19	0.22	1.96	19	1..4	6.8	-54.8

37 523	14/42	Sx	0.93	1.04	18	0.17	1.44	18	1.1	4.0	-86.7
37 530	14/42	Sx	0.19	0.63	19	0.08	0.77	19	0.9	3.6	-89.5
B7 531	14/61	Sx	0.21	0.54	18	0.06	0.53	18	1.5	3.9	-45.0
B7 67	14/42	Sx	0.45	0.90	20	0.07	0.67	20	1.0	4.4	85.6
B7 621	14/42	Sx	0.44	0.76	20	0.16	1.47	20	0.9	3.9	-86.0
B7 627	14/61	Sx	1.26	0.95	16	0.08	0.71	16	3.7	1-2.9	-59.5
B7 628	14/42	Sx	0.55	0.66	8	0.04	0.40	8	2.0	7.0	-83.8
B7 74	14/42	Sx	0.37	0.75	16	0.11	1.04	16	1.2	3.8	87.9
87 75	14/61	Sx	0.29	0.65	16	0.06	0.58	16	1.4	4.7	-44.6
87 711	14/42	Sx	0.29	0.77	19	0.09	0.82	19	0.9	3.6	-84.9
87 719	14/42	Sx	0.34	0.98	18	0.10	0.91	18	0.9	3.9	-85.4
87 719	14/61	Sx	0.17	0.51	14	0.07	0.64	14	1.3	5.9	-43.2
87 727	14/42	Sx	0.47	0.97	16	0.09	0.87	16	0.9	4.2	86.1
87 81	14/61	Sx	0.43	0.67	16	0.07	0.58	16	1.4	4.6	-43.0
87 82	14/42	Sx	0.69	0.91	18	0.08	0.67	18	1.2	5.1	78.4
87 89	14/63	Sx	1.04	0.87	14	0.13	0.94	14	1.3	6.0	-27.5
87 815	14/42	Sx	0.35	0.68	10	0.07	0.59	10	1.2	4.4	-85.1
87 816	14/63	Sx	0.21	0.83	8	0.09	0.86	8	1.2	4.8	-38.6
87 817	14/63	Sx	0.25	0.95	142	0.09	0.99	142	0.3	1.0	-43.2
87 822	14/42	Sx	0.23	0.65	18	0.06	0.54	18	0.8	2.7	83.4
87 824	14/63	Sx	0.26	0.92	11	0.07	0.60	12	1.5	6.9	-45.1
87 829	14/63	Sx	0.72	0.89	17	0.10	0.83	17	1.4	5.0	-42.5
87 83C	14/42	Sx	0.76	0.79	20	0.12	1.07	20	1.1	4.9	-79.1
87 97	14/42	Sx	0.13	0.21	6	0.08	0.75	6	2.6	11.5	87.4
87 912	14/42	Sx	0.19	0.48	16	0.13	1.17	16	1.0	3.4	-88.1
87 913	14/63	Sx	0.23	0.68	17	0.12	1.16	17	0.8	4.3	-41.5
87 919	14/63	Sx	0.35	0.73	7	0.07	0.63	7	2.7	1.0.4	-24.6
87 920	14/42	Sx	0.28	0.70	15	0.06	0.52	15	0.9	3.5	-86.7
87 926	14/63	Sx	0.12	0.49	18	0.09	0.79	18	0.7	3.3	-32.1
87103	15/42	Sx	0.43	0.91	17	0.11	0.99	17	1.6	6.7	-86.4
87104	15/63	Sx	0.30	0.62	18	0.15	1.31	18	1.5	5.8	-41.0
87101	15/63	Sx	0.27	0.64	17	0.05	0.43	17	1.4	5.7	-43.2
871012	15/42	Sx	0.22	0.54	14	0.11	1.02	14	1.1	4.6	-89.0
871018	15/42	Sx	0.69	1.06	15	0.05	0.43	15	1.4	7.6	-82.6
87101E	15/63	Sx	0.23	0.47	18	0.07	0.59	18	1.4	5.0	-52.0
871020	15/42	Sx	0.42	0.77	14	0.07	0.61	14	2.0	8.2	-85.2
871024	15/63	Sx	0.23	0.62	16	0.09	0.81	16	1.8	13.9	-57.9
871030	15/63	Sx	0.34	0.67	18	0.06	0.56	18	1.4	4.6	-38.4
87117	15/63	Sx	0.38	0.79	17	0.07	0.50	17	1.6	5.6	-45.6
87118	15/43	Sx	0.81	0.68	15	0.15	1.15	15	2.4	8.0	77.7
87118	15/63	Sx	0.24	0.91	75	0.08	0.95	75	0.5	1.6	-44.7
871115	15/43	Sx	0.20	0.67	19	0.04	0.34	19	0.8	3.7	86.7
871120	15/63	Sx	0.08	0.35	16	0.02	0.22	16	1.3	5.2	-44.5
87121	15/43	Sx	0.23	0.36	12	0.09	0.86	12	1.6	8.8	77.6
87125	15/43	Sx	0.21	0.63	17	0.09	0.82	17	1.0	4.4	84.8
87126	15/63	Sx	0.15	0.58	18	0.07	0.60	18	1.1	5.1	-43.8
871221	15/43	Sx	0.20	0.67	18	0.05	0.43	18	0.8	4.2	82.3
871226	15/43	Sx	0.27	0.91	91	0.07	0.73	91	0.2	1.1	89.9
871227	15/63	Sx	0.23	0.71	18	0.03	0.25	18	1.0	3.7	-44.5
871228	15/43	Sx	0.30	0.82	78	0.12	1.20	78	0.3	1.3	-89.0
8812	15/63	Sx	0.26	0.56	13	0.09	0.80	14	2.9	7.4	-45.7
8813	15/43	Sx	0.23	0.67	20	0.07	0.69	20	0.9	3.8	84.3
8819	15/43	Sx	0.26	1.07	17	0.16	1.54	17	0.6	2.2	89.3
88110	15/63	Sx	0.16	0.76	18	0.04	0.35	18	0.7	2.7	-40.8
88117	15/63	Sx	0.97	1.06	16	0.09	0.74	16	2.5	11.1	-36.3
88124	1.5/63	Sx	0.27	0.90	18	0.10	0.95	18	0.7	2.6	-42.9

38	125	L5/43	Sx	0.15	0.71	18	0.03	0.28	18	0.5	2.9	84.2
38	129	L5/43	Sx	0.43	0.98	15	0.11	1.06	15	0.8	6.0	77.6
38	129	15/63	Sx	0.53	0.93	18	0.09	0.90	18	0.9	3.8	-39.1
38	27	15/63	Sx	1.06	1.07	14	0.07	0.55	14	4.7	13.3	-60.7
38	212	15/63	Sx	0.31	0.72	18	0.08	0.73	18	1.0	4.6	-39.7
38	213	15/43	Sx	0.16	0.72	65	0.08	0.98	65	0.3	1.3	88.7
B8	213	15/43	Sx	0.17	0.82	17	0.06	0.57	17	0.5	1.8	-89.1
38	215	1 5/43	Sx	0.33	0.98	95	0.09	0.96	95	0.3	1.0	89.5
B8	219	15/63	Sx	0.16	0.83	18	0.05	0.47	18	1.1	4.3	-40.7
88	220	15/43	SX	0.21	0.92	19	0.06	0.53	19	0.8	3.4	-86.5
88	227	15/43	Sx	0.22	0.90	19	0.11	1.05	19	0.6	3.2	86.9
88	227	15/6 3	Sx	0.16	0.65	17	0.12	1.11	17	0.9	3.2	-43.1
B8	35	1 5/43	Sx	0.28	0.87	18	0.06	0.61	18	0.7	3.1	86.5
88	35	15/63	Sx	0.22	0.76	18	0.08	0.70	18	0.7	3.1	-39.3
88	311	15/63	Sx	0.17	0.73	16	0.03	0.31	16	0.9	3.3	-37.6
88	313	15/43	Sx	0.18	0.76	17	0.06	0.56	17	0.7	2.9	87.6
88	318	15/6 3	Sx	0.14	0.91	18	0.05	0.47	18	0.6	2.8	-41.0
88	324	15/43	Sx	0.12	0.65	19	0.11	1.07	19	0.4	2.6	85.7
88	325	15/63	Sx	0.24	0.75	50	0.09	1.07	50	1.1	2.9	-44.7
88	326	15/63	Sx	0.38	1.04	18	0.06	0.55	18	1.3	4.4	-48.4
88	327	15/63	Sx	0.27	0.92	136	0.08	0.95	136	0.4	1.3	-45.1
88	42	15/43	Sx	0.24	0.76	20	0.08	0.72	20	0.4	3.3	86.1
88	42	15/43	Sx	0.35	0.88	42	0.05	0.59	42	0.9	3.3	76.6
88	42	15/63	Sx	0.30	0.56	16	0.08	0.81	16	1.0	4.6	-42.9
88	43	15/43	Sx	0.20	0.88	111	0.09	1.06	111	0.4	1.6	-85.2
88	49	15/63	Sx	0.10	0.60	18	0.04	0.39	18	0.6	2.5	-40.4
88	411	1 5/43	Sx	0.26	0.91	19	0.13	1.20	19	1.0	2.4	-87.8
88	416	15/43	Sx	0.21	0.80	16	0.07	0.67	16	0.6	2.9	87.6
88	421	15/43	Sx	0.18	0.75	18	0.07	0.62	18	0.6	2.1	85.1
88	43C	15/63	Sx	0.11	0.62	9	0.07	0.70	9	1.1	4.4	-38.3
88	5 8	15/63	SX	0.46	0.98	18	0.08	0.79	18	0.8	3.2	-44.9
88	511	15/43	Sx	0.14	0.66	17	0.03	0.30	17	0.7	2.9	85.8
88	514	15/43	Sx	0.13	0.65	18	0.11	1.01	18	0.5	3.4	83.9
88	514	15/43	Sx	0.16	0.89	62	0.05	0.98	62	0.3	1.0	85.1
88	52C	15/63	Sx	0.15	0.68	101	0.08	0.97	101	0.7	2.5	-55.3
88	521	15/43	Sx	0.55	0.62	12	0.07	0.61	12	3.2	10.1	80.5
88	522	15/63	Sx	0.18	0.73	16	0.12	1.11	16	0.8	4.2	-37.5
88	526	15/43	Sx	0.49	0.61	14	0.10	0.92	14	1.9	6.3	-85.8
88	528	15/63	Sx	0.23	0.86	17	0.19	1.77	17	1.0	3.4	-46.1
88	611	14/63	Sx	0.05	0.28	15	0.12	1.13	15	0.8	2.7	-40.4
88	612	14/45	Sx	0.08	0.36	16	0.07	0.70	16	0.6	1.9	-88.2
88	618	14/45	Sx	0.52	0.89	7	0.10	0.92	7	1.0	5.1	86.5
88	618	14/63	Sx	0.23	0.96	17	0.05	0.48	17	0.7	2.8	-35.5
88	625	14/4 5	Sx	0.41	1.67	18	0.13	1.20	18	0.7	2.5	87.6
88	626	14/63	Sx	0.04	0.28	7	0.09	0.84	7	0.9	3.7	-37.1
88	716	14/63	Sx	0.13	0.53	14	0.08	0.75	14	1.5	9.9	-60.5
88	718	14/43	Sx	0.10	0.66	7	0.04	0.39	7	1.3	6.6	-88.9
88	723	14/63	Sx	0.19	1.00	17	0.13	1.24	17	0.6	3.0	-39.9
88	725	14/43	Sx	0.24	0.60	13	0.14	1.28	13	0.8	4.7	77.7
88	73C	14/63	Sx	0.33	1.05	16	0.10	0.99	16	0.5	2.6	-34.7
88	8 6	14/65	Sx	0.33	0.92	57	0.12	1.21	57	1.1	4.6	-65.6
88	8 7	14/65	Sx	0.19	1.00	18	0.10	0.84	18	1.2	4.9	-45.9
88	8 E	1.4/65	Sx	0.25	0.91	64	0.08	0.74	64	0.8	2.5	-56.7
88	813	14/43	Sx	0.66	0.85	18	0.08	0.70	18	1.2	4.0	85.8
88	813	14/65	Sx	0.53	0.71	10	0.07	0.62	10	2.3	7.0	-38.7
88	82C	14/43	Sx	0.09	0.79	103	0.13	0.98	103	0.3	1.4	85.9

38	820	L4/43	Sx	0.15	0.92	14	0.17	1.67	14	0.7	3.0	-89.8
38	827	L4/43	Sx	0.56	0.75	15	0.17	1.49	15	1.4	5.6	82.8
38	827	14/65	Sx	0.75	0.87	12	0.16	1.44	12	6.2	16.8	-62.9
38	92	14/43	Sx	0.15	0.63	19	0.16	1.49	19	0.4	1.8	-86.0
38	93	1.4/43	Sx	0.15	0.93	59	0.14	1.02	59	0.3	1.4	89.1
38	94	14/63	Sx	0.31	0.95	11	0.05	0.47	11	0.9	4.8	-41.5
38	95	14/65	Sx	0.22	0.89	117	0.07	0.99	117	0.6	1.7	-47.9
38	911	14/43	Sx	0.85	0.68	12	0.16	0.76	12	2.0	7.8	83.0
38	911	14/63	Sx	0.06	0.36	16	0.06	0.61	16	0.5	3.7	-38.5
88	917	14/63	Sx	0.27	0.75	120	0.11	0.99	120	0.5	1.4	-36.6
88	924	14/43	Sx	0.57	0.73	10	0.13	1.03	10	2.7	8.1	77.9
88	925	14/63	Sx	0.07	0.53	14	0.10	0.92	14	1.0	5.5	-54.8
B810	1	14/43	Sx	0.07	0.46	10	0.15	1.42	10	0.6	2.9	86.0
B810	1	14/63	Sx	0.22	1.05	16	0.10	0.92	16	0.6	3.4	-38.9
8810	8	14/63	Sx	0.37	0.88	11	0.12	1.08	11	1.3	19.8	-41.1
B810	9	14/43	Sx	0.45	0.85	16	0.11	1.08	16	0.8	3.6	85.3
881023	14/43	Sx	0.26	0.77	16	0.19	1.80	16	0.6	3.3	88.5	
881029	14/43	Sx	0.12	0.71	18	0.15	1.40	18	0.5	2.7	-82.3	
8811	6	14/63	Sx	0.03	0.22	11	0.03	0.26	11	0.9	5.3	-41.7
8811	6	14/63	Sx	0.19	0.88	107	0.10	1.02	107	0.3	1.3	-44.1
8811	7	14/43	Sx	0.09	0.50	18	0.06	0.59	18	0.9	3.3	-85.0
881112	14/63	Sx	0.21	0.79	11	0.06	0.62	11	0.7	4.4	-39.3	
881119	14/63	Sx	0.14	0.83	17	0.07	0.67	17	0.6	2.4	-41.2	
881120	14/43	Sx	0.42	1.02	12	0.18	1.60	12	1.3	4.8	88.1	
881126	14/43	Sx	0.12	0.69	18	0.06	0.57	18	0.4	2.6	86.8	
8812	4	14/43	Sx	0.15	0.41	17	0.11	1.08	17	0.5	3.0	86.3
881211	14/43	Sx	0.23	0.78	14	0.15	1.43	14	0.5	3.7	-84.9	
881211	14/63	Sx	0.29	0.95	17	0.03	0.29	17	0.8	3.0	-34.3	
881217	14/63	Sx	0.26	1.02	18	0.05	0.47	18	0.6	3.8	-37.1	
881226	14/43	Sx	0.17	0.84	16	0.17	1.60	16	0.5	2.8	87.6	
881231	14/63	Sx	0.23	0.69	16	0.05	0.40	16	0.7	4.6	-37.0	
89	13	14/43	Sx	0.15	0.85	18	0.09	0.85	18	0.5	2.3	-87.2
89	18	14/43	Sx	0.13	0.77	18	0.16	1.52	18	"0.5	2.4	88.4
89	18	14/63	Sx	0.09	0.48	16	0.04	0.35	16	0.6	3.8	-38.0
89	115	14/43	Sx	0.11	0.42	15	0.07	0.66	15	0.6	2.7	-85.5
89	115	14/63	Sx	0.15	0.60	10	0.07	0.69	10	1.2	5.5	-42.5
89	121	1.4/43	Sx	0.09	0.65	18	0.05	0.51	18	0.4	2.2	-86.8
89	122	14/63	Sx	0.12	0.79	14	0.04	0.40	14	0.5	3.5	-37.9
89	128	14/43	Sx	0.09	0.53	19	0.09	0.82	19	0.4	1.7	89.1
89	129	14/63	Sx	0.10	0.56	16	0.05	0.45	16	0.5	2.0	-35.0
89	25	14/63	Sx	0.16	0.61	64	0.09	0.97	64	0.4	1.4	-39.6
89	211	14/63	Sx	1.68	1.39	12	0.09	0.78	12	2.7	13.7	-45.9
89	219	14/43	Sx	0.12	0.58	19	0.14	1.43	19	0.6	2.6	-88.3
89	219	14/63	Sx	0.08	0.57	16	0.06	0.59	16	0.6	2.3	-37.1
89	226	14/43	Sx	0.17	0.73	16	0.13	1.29	16	0.6	3.2	-86.7
89	34	14/43	Sx	0.16	0.70	17	0.10	0.99	17	0.5	2.5	-89.7
89	34	14/63	Sx	0.14	0.96	16	0.04	0.44	16	0.5	2.3	-33.8
89	312	14/43	Sx	0.15	0.99	17	0.13	1.39	17	0.5	2.8	84.6
89	318	14/43	Sx	0.17	0.80	14	0.11	1.17	14	0.5	2.4	-83.2
89	319	14/63	Sx	0.07	1.06	161	0.12	1.01	161	0.1	0.6	-44.0
89	326	14/43	Sx	0.17	0.84	16	0.07	0.75	16	0.5	3.0	84.1
89	326	14/63	Sx	0.19	0.83	16	0.16	1.24	16	0.8	2.7	-38.9
89	42	14/43	Sx	0.09	0.34	13	0.08	0.29	13	1.2	5.8	85.9
89	47	14/63	Sx	0.05	0.36	13	0.05	0.49	13	0.7	4.0	-41.1
89	416	14/43	Sx	0.10	0.52	19	0.05	0.50	19	0.5	2.3	87.2
89	417	14/63	Sx	0.08	0.50	14	0.08	0.88	14	1.1	6.2	-55.0

39	418	14/63	Sx	0.16	0.70	177	0.06	0.97	177	0.2	0.9	-46.8
39	422	14/43	Sx	0.07	0.33	13	0.20	0.78	13	0.7	4.5	-85.7
39	429	14/63	Sx	0.25	0.72	17	0.08	0.81	17	0.5	3.3	-33.3
89	5 6	14/43	Sx	0.10	0.43	18	0.09	0.91	18	0.5	2.9	-86.1
39	5 6	14/63	Sx	0.18	0.49	19	0.06	0.62	19	0.8	4.2	-45.7
B	9 5 7	14/43	Sx	0.07	1.03	180	0.10	1.02	180	0.1	0.3	89.0
89	513	14/63	Sx	0.24	0.85	11	0.08	0.70	11	1.1	5.8	-38.1
89	520	14/43	Sx	0.34	0.95	13	0.12	1.19	13	0.8	3.6	-86.4
89	520	14/63	Sx	0.17	0.84	18	0.07	0.66	18	0.5	4.2	-41.2
89	529	14/43	Sx	0.13	0.79	18	0.08	0.87	18	0.5	2.5	-88.0
B	9 6 3	14/43	Sx	0.12	0.65	19	0.11	1.15	19	0.5	2.0	-89.3
B	9 6 5	14/63	Sx	0.22	0.80	16	0.06	0.63	16	0.6	3.6	-39.7
89	611	14/43	Sx	0.11	0.66	16	0.10	1.05	16	0.4	2.5	88.4
89	611	14/63	Sx	0.35	1.10	17	0.07	0.67	17	0.7	2.4	-39.1
89	618	14/43	Sx	0.09	0.52	17	0.05	0.51	17	0.4	2.0	-88.4
89	618	14/63	Sx	0.19	0.88	17	0.10	1.03	17	0.6	3.9	-34.4
89	623	14/43	Sx	0.15	0.96	15	0.08	0.78	15	0.5	2.0	-85.8
89	625	14/63	Sx	0.20	0.94	15	0.08	0.81	15	0.8	2.8	-41.5
89	7 4	14/43	Sx	0.17	0.91	19	0.09	0.96	19	0.4	1.6	-87.4
89	7 9	1.4/43	Sx	0.08	0.52	17	0.15	1.54	17	0.5	2.0	88.9
89	7 9	14/63	SX	0.13	0.85	17	0.09	0.95	17	0.5	2.5	-35.7
89	710	15/45	Sx	0.04	0.61	81	0.14	0.97	81	0.1	0.6	89.2
89	714	14/43	Sx	0.15	0.68	18	0.09	0.94	18	0.5	1.7	-86.5
89	716	14/63	Sx	0.11	0.72	16	0.10	1.05	16	0.5	3.5	-33.2
89	722	14/43	Sx	0.17	0.76	16	0.18	1.70	16	0.4	2.0	89.3
89	723	14/63	Sx	0.06	0.51	15	0.05	0.54	15	0.5	3.4	-33.1
89	729	14/43	Sx	0.20	0.65	18	0.16	1.58	18	0.4	1.6	-89.2
89	73C	14/63	Sx	0.14	0.88	14	0.13	1.31	14	0.5	2.5	-33.2
89	8 5	14/43	Sx	0.13	0.72	14	0.07	0.76	14	0.4	2.2	-89.1
89	8 6	14/63	Sx	0.16	0.93	15	0.18	1.92	15	0.6	3.2	-27.5
89	812	14/43	SX	0.22	0.82	12	0.07	0.71.	12	0.7	3.0	-85.6
89	813	14/63	Sx	0.14	1.10	12	0.08	0.79	12	0.6	3.1	-31.4
89	82C	14/63	Sx	0.15	0.90	16	0.08	0.77	16	0.5	2.5	-32.0
89	82E	14/43	Sx	0.10	0.60	12	0.07	0.76	12	0.5	2.2	-88.3
89	9 2	14/43	Sx	0.12	0.71	19	0.07	0.68	19	0.4	1.6	-86.6
89	9 7	15/45	Sx	0.06	0.77	84	0.14	0.98	84	0.1	0.7	88.9
89	9 9 :	14/43	Sx	0.12	0.61	19	0.06	0.59	19	0.4	1.7	-86.7
89	91(	14/63	Sx	0.24	0.85	11	0.13	1.41	11	1.2	4.4	-41.0
89	913	15/65	Sx	0.08	0.89	41	0.07	1.01	41	0.3	1.3	-45.1
89	91E	14/43	Sx	0.15	0.80	19	0.10	1.03	19	0.4	2.0	-88.3
89	917	14/63	Sx	1.33	1.53	12	0.14	1.36	12	3.3	9.8	-36.4
89	923	14/43	Sx	0.10	0.46	18	0.09	0.88	18	0.5	2.3	-85.2
89	924	14/63	Sx	0.23	0.92	14	0.11	1.15	14	0.7	3.3	-38.8
89	92E	1.4/43	Sx	0.10	0.64	19	0.08	0.80	19	0.4	1.9	-87.9
8910 3	14/45	Sx	0.06	0.87	48	0.07	1.01	48	0.2	0.8	82.3	
8910 E	14/43	Sx	0.13	0.76	19	0.05	0.52	19	0.4	1.7	-87.4	
8910 S	14/63	Sx	0.04	0.35	15	0.02	0.23	15	0.5	3.9	-34.3	
891014	14/43	Sx	1.10	1.08	11	0.14	1.31	11	2.3	7.3	86.5	
891015	14/63	Sx	0.11	0.44	14	0.05	0.47	14	1.4	4.5	-42.8	
891022	14/43	Sx	0.08	0.38	17	0.13	1.23	17	0.4	1.8	-88.2	
89102E	14/43	Sx	0.09	0.57	19	0.05	0.52	19	0.3	1.5	-86.2	
89103C	14/63	Sx	0.10	0.76	15	0.03	0.33	15	0.4	3.5	-34.2	
891.1 E	14/63	Sx	0.08	0.64	15	0.05	0.53	15	0.5	3.1	-35.7	
89111.1	14/63	Sx	0.08	0.65	16	0.06	0.64	16	0.5	3.4	-34.0	
891113	14/43	Sx	0.13	0.83	19	0.07	0.75	19	0.4	1.8	-87.1	
891118	14/63	Sx	0.14	0.53	12	0.07	0.65	12	0.8	3.1.	-36.0	

891119	14/43	Sx	0.10	0.59	19	0.05	0.54	19	0.4	1.8	-88.1
891125	14/63	Sx	0.13	0.43	17	0.07	0.68	17	0.5	2.1	-35.3
891127	14/43	Sx	0.14	0.68	19	0.05	0.51	19	0.5	1.9	-88.7
8912 2	14/63	Sx	0.20	0.66	16	0.04	0.37	16	0.6	2.8	-41..8
8912 3	14/43	Sx	0.13	0.59	18	0.08	0.88	18	0.4	2.5	-89.3
8912 3	14/45	Sx	0.05	0.57	32	0.08	1.01	32	0.4	2.4	88.0
8912 9	14/43	Sx	0.10	0.63	15	0.19	1.97	15	0.5	2.0	86.5
891210	14/63	Sx	0.14	1.01	18	0.06	0.64	18	0.7	3.9	-39.9
891216	14/65	Sx	0.31	0.96	16	0.08	0.78	16	1.0	3.7	-42.4
891217	14/43	Sx	0.08	0.58	18	0.05	0.52	18	0.3	1.5	-88.4
891223	14/43	Sx	0.14	0.63	18	0.05	0.54	18	0.4	2.1	-88.8
891231	14/65	Sx	0.14	0.70	16	0.03	0.35	16	1.0	3.7	-44.2
90 1 6	14/65	Sx	0.08	0.49	11	0.02	0.22	11	0.6	3.2	-36.3
90 114	14/43	Sx	0.14	0.92	17	0.15	1.67	17	0.4	2.8	84.3
90 114	14/65	Sx	0.11	0.65	15	0.08	0.83	15	0.6	2.8	-35.1
90 120	14/43	Sx	0.18	0.46	17	0.06	0.62	17	0.4	1.7	-89.6
90 127	14/43	Sx	0.07	0.38	13	0.12	1.34	13	0.5	2.8	89.1
90 128	14/65	Sx	0.09	0.58	17	0.04	0.46	17	0.7	2.8	-42.3
90 2 2	14/4 3	Sx	0.89	1.13	14	0.20	2.09	14	1.6	5.1	-89.3
90 2 3	14/65	Sx	0.08	0.54	7	0.09	0.97	7	1.1	4.5	-43.6
90 211	14/43	Sx	0.06	0.42	19	0.07	0.77	19	0.3	1.4	-89.8
90 211	14/65	Sx	0.08	0.51	17	0.07	0.77	17	0.5	2.7	-36.5
90 218	15/45	SX	0.09	1.02	181	0.13	0.98	181	0.1	0.4	89.8
90 223	15/65	Sx	0.06	1.00	134	0.06	0.98	134	0.1	0.4	-42.3
90 224	14/65	Sx	0.26	1.05	11	0.03	0.36	11	0.7	3.2	-39.9
90 225	14/43	Sx	0.10	0.61	19	0.14	1.49	19	0.4	2.0	87.8
90 3 3	14/43	Sx	0.15	0.67	17	0.05	0.58	17	0.5	1.4	-84.2
90 3 4	14/65	Sx	0.23	0.93	12	0.09	0.96	12	1.1	4.1	-39.2
90 3 9	15/43	Sx	0.09	0.46	12	0.05	0.56	12	0.8	4.1	-79.3
90 3 9	15/63	Sx	0.16	0.83	11	0.04	0.40	11	0.9	3.2	-37.7
90 317	14/45	Sx	0.08	0.49	17	0.08	0.88	17	0.5	3.0	-85.5
90 318	14/65	Sx	0.31	1.89	12	0.04	0.46	12	0.9	3.1	-41.2
90 324	15/43	Sx	0.17	0.97	15	0.09	0.93	15	0.4	2.4	-88.2
90 325	15/63	Sx	0.13	0.52	13	0.08	0.86	13	0.7	4.5	-39.5
90 4 1	14/45	Sx	0.08	0.48	17	0.08	0.86	17	0.4	2.8	-85.8
90 4 1	14/65	Sx	0.12	0.47	14	0.08	0.92	14	0.7	3.4	-38.7
90 4 7	15/43	Sx	0.08	0.49	7	0.10	1.14	7	0.7	3.6	88.3
90 4 9	15/63	Sx	0.12	0.51	16	0.03	0.35	16	0.9	3.4	-44.3
90 410	15/45	Sx	0.07	0.88	144	0.11	0.98	144	0.1	0.4	89.5
90 414	15/6 5	Sx	0.08	0.92	170	0.12	1.02	170	0.1	0.5	-38.0
90 415	14/45	SX	0.09	0.59	15	0.05	0.58	15	0.4	1.7	-89.0
90 416	14/65	Sx	0.18	0.97	13	0.07	0.77	13	0.5	3.0	-39.4
90 422	15/63	Sx	0.10	0.55	8	0.06	0.67	8	1.1	3.5	-42.1
90 424	14/45	Sx	0.30	0.62	15	0.15	1.58	15	1.1	5.1	80.5
90 429	14/45	Sx	0.20	0.82	10	0.09	1.02	10	0.8	3.5	-90.0
90 430	15/63	Sx	0.13	0.60	15	0.09	0.93	15	0.8	2.9	-37.7
90 5 5	14/45	Sx	0.28	0.72	15	0.04	0.44	15	0.9	3.6	83.7
90 5 8	14/65	SX	0.15	0.60	14	0.08	0.86	14	1.0	3.3	-40.1
90 513	15/43	Sx	0.10	0.67	15	0.08	0.91	15	0.4	2.2	85.8
90 513	15/63	Sx	0.21	0.83	13	0.09	1.01	13	0.6	2.6	-37.6
90 520	14/65	Sx	0.20	0.78	16	0.08	0.92	16	0.7	4.0	-43.3
90 522	15/43	Sx	0.07	0.46	14	0.09	0.94	14	0.5	2.4	84.0
90 528	14/65	Sx	0.23	0.61	12	0.13	1.38	12	0.8	3.3	-44.3
90 529	15/43	Sx	0.12	0.69	15	0.08	0.86	15	0.4	2.4	84.4
90 6 2	14/65	Sx	0.13	0.57	13	0.04	0.45	13	0.5	3.0	-37.1
90 6 7	14/45	Sx	0.40	0.77	13	0.07	0.75	13	1.1	4.0	85.6

90	610	5/63	Sx	0.17	0.86	15	0.11	1.18	15	0.5	2.4	-35.6
90	613	14/45	Sx	0.27	0.62	14	0.08	0.81	14	0.8	3.3	-89.1
90	618	15/63	Sx	0.26	0.87	18	0.07	0.69	18	0.6	3.8	-38.4
90	621	14/45	Sx	0.07	0.43	15	0.03	0.38	15	0.5	2.2	-89.7
90	624	14/65	Sx	0.23	1.02	14	0.12	1.30	14	0.6	3.1	-34.8
90	628	14/45	Sx	0.16	0.94	16	0.10	1.13	16	0.5	2.1	89.9
90	630	15/63	Sx	0.06	0.27	5	0.06	0.68	5	1.6	6.9	-47.1
90	7 5	15/43	Sx	0.14	0.84	15	0.15	1.65	15	0.5	2.1	-88.2
90	7 8	15/63	Sx	0.17	0.74	18	0.07	0.81	18	0.6	3.7	-37.9
30	7 9	1.5/43	Sx	0.07	0.43	17	0.13	1.44	17	0.4	1.8	89.3
90	719	14/45	Sx	0.11	0.55	15	0.09	1.00	15	0.6	3.1	85.9
90	720	15/45	Sx	0.08	0.97	281	0.18	0.98	281	0.1	0.3	89.2
90	721	15/63	Sx	0.21	0.84	14	0.09	0.96	14	0.5	2.4	-36.9
90	726	15/43	Sx	0.19	1.06	15	0.07	0.73	15	0.6	2.5	84.1
90	729	1.5/63	Sx	0.17	0.77	11	0.09	0.94	11	1.4	7.0	-43.5
90	731	15/65	Sx	0.07	0.95	231	0.13	1.00	231	0.1	0.4	-39.7
90	8 2	15/43	Sx	0.12	0.89	11	0.15	1.56	11	0.5	3.0	84.3
90	8 5	15/63	Sx	0.17	0.84	17	0.07	0.79	17	0.6	3.2	-34.1
90	8 8	15/43	Sx	0.14	0.56	15	0.07	0.73	15	0.6	2.3	86.0
90	812	14/65	Sx	0.21	1.08	7	0.08	0.79	7	1.0	4.5	-43.3
90	815	14/45	Sx	0.09	0.44	15	0.06	0.65	15	0.6	2.3	79.2
90	819	14/65	Sx	0.12	0.66	10	0.16	1.68	10	0.8	3.8	-38.7
90	822	14/45	Sx	0.15	0.97	13	0.08	0.81	13	0.5	2.1	89.7
90	826	14/65	Sx	0.18	0.55	17	0.08	0.89	17	0.9	3.5	-37.0
90	829	15/43	Sx	0.16	0.82	15	0.09	0.99	15	0.5	2.0	-84.3
90	9 2	14/65	Sx	0.32	0.96	15	0.09	0.96	15	0.7	4.9	-44.7
90	9 5	15/43	Sx	0.28	1.27	15	0.07	0.78	15	0.4	1.6	88.7
90	910	14/65	Sx	0.28	1.00	15	0.08	0.91	15	0.7	4.3	-46.4
90	913	14/45	Sx	0.27	1.35	15	0.04	0.42	15	0.5	1.9	-83.8
90	916	14/65	Sx	0.20	1.06	13	0.05	0.59	13	0.7	7.6	-43.9
90	92C	1.5/4:	SX	0.30	1.31	15	0.14	1.48	15	0.5	2.6	-80.3
90	923	14/65	Sx	0.23	0.63	10	0.08	0.82	10	1.3	6.5	-40.9
90	924	15/65	Sx	0.06	0.92	102	0.15	0.99	102	0.1	0.6	-39.8
90	925	15/45	Sx	0.07	0.93	114	0.18	0.97	114	0.1	0.5	-89.3
90	926	15/43	Sx	0.12	0.52	13	0.09	0.98	13	0.6	3.0	-71.0
90	927	15/65	Sx	0.07	1.01	152	0.17	0.99	152	0.1	0.5	-38.4
90	93C	14/65	Sx	0.12	0.69	12	0.08	0.82	12	0.7	3.0	-39.8
90	93C	15/45	Sx	0.06	0.77	96	0.09	0.99	96	0.1	0.4	89.6
9010	4	15/43	Sx	0.12	0.82	14	0.07	0.78	14	0.6	3.0	-80.7
9010	8	14/65	Sx	0.15	0.50	11	0.06	0.64	11	1.2	5.6	-36.8
901014		15/43	Sx	0.11	0.67	13	0.04	0.48	13	0.5	2.9	-79.9
901015		14/65	Sx	0.25	0.92	14	0.13	1.41	14	0.9	4.1	-38.2
90102C		14/65	Sx	0.08	0.52	7	0.04	0.40	7	1.0	8.1.	-35.7
901023		14/45	Sx	0.11	0.58	19	0.06	0.68	19	0.6	2.3	-83.5
901028		15/63	Sx	0.30	0.71	16	0.06	0.67	16	0.8	4.9	-42.8
90103C		15/43	Sx	0.13	0.56	14	0.07	0.79	14	0.5	2.7	-82.4
9011	1	15/45	Sx	0.08	0.85	139	0.18	0.99	3.39	0.2	0.7	-89.6
9011	3	15/63	Sx	0.32	1.14	16	0.10	1.05	16	0.6	3.2	-34.1
9011	8	15/43	Sx	0.15	0.84	19	0.04	0.47	19	0.5	2.5	-84.8
9011	9	14/65	Sx	0.11	0.48	13	0.06	0.61	13	1.0	4.3	-40.4
901111		15/65	Sx	0.04	0.64	100	0.05	1.01	100	0.1	0.5	-41. 9
901112		15/65	Sx	0.03	0.76	30	0.05	0.96	30	0.1	0.7	-38.0
901114		15/43	Sx	0.11	0.47	6	0.20	2.16	6	2.1	19.0	71.3
901118		14/65	Sx	0.14	0.74	14	0.03	0.31	14	1.1	4.3	-31.8
901121		14/45	Sx	0.12	0.69	17	0.11	1.19	17	0.4	1.9	-88.2
901124		14/65	Sx	0.21	0.73	14	0.08	0.84	14	0.7	2.9	-38.6

901128	15/43	Sx	0.12	0.75	18	0.09	1.02	18	0.5	2.3	-87.9
9012 5	14/45	Sx	0.18	1.01	16	0.05	0.51	16	0.4	1.9	-88.0
901212	15/43	Sx	0.22	1.03	14	0.09	0.95	14	0.6	2.2	-89.2
901216	14/65	Sx	0.18	0.71	14	0.07	0.71	14	0.8	4.4	-41.1
901222	14/65	Sx	0.20	0.72	15	0.08	0.87	15	1.0	4.0	-51.7
901226	14/45	Sx	0.16	0.70	15	0.09	0.95	15	0.5	2.2	-89.9
901229	14/65	Sx	0.17	1.01	14	0.03	0.32	14	0.7	3.2	-36.8
901230	15/65	Sx	0.05	1.02	76	0.05	1.02	76	0.1	0.5	-42.4
91116	14/65	Sx	0.08	0.35	14	0.04	0.46	14	0.8	3.1	-48.5
91119	15/43	Sx	0.06	0.32	10	0.06	0.65	10	0.6	3.3	87.0
91112	15/63	Sx	0.06	0.26	12	0.05	0.57	12	0.9	3.9	-53.6
91120	15/63	Sx	0.14	0.70	13	0.05	0.59	13	0.9	4.9	-35.8
91123	15/4 3	Sx	0.28	0.91	16	0.10	1.02	16	0.6	2.4	88.8
91127	15/63	Sx	0.16	0.85	14	0.05	0.52	14	0.5	2.2	-38.3
91130	15/43	Sx	0.12	0.63	16	0.11	1.22	16	0.4	2.0	89.8
91126	14/43	Sx	0.13	0.71	17	0.10	1.08	17	0.4	1.8	85.8
91210	1.4/63	Sx	0.22	1.17	17	0.05	0.58	17	0.7	2.3	-39.9
91211	15/65	Sx	0.04	0.69	115	0.03	0.96	115	0.1	0.4	-42.0
91214	14/43	Sx	0.35	1.04	17	0.20	0.77	17	0.7	3.2	89.3
91217	14/63	Sx	0.17	0.54	16	0.09	1.00	16	0.6	3.2	-37.2
91221	14/43	Sx	0.08	0.55	16	0.12	1.25	16	0.4	2.1	88.3
91224	14/63	Sx	0.11	0.76	16	0.03	0.33	16	0.4	2.0	-33.8
91227	14/43	SX	0.13	0.88	18	0.08	0.89	18	0.4	1.9	87.5
91333	14/63	Sx	0.11	0.62	18	0.09	0.97	18	0.5	3.3	-39.5
91337	14/43	Sx	0.18	0.61	16	0.09	0.92	16	0.4	1.7	89.9
91339	14/63	Sx	0.12	0.85	17	0.12	1.27	17	0.5	2.6	-41.5
91315	14/43	SX	0.13	0.88	16	0.12	1.24	16	0.4	1.6	-87.1
91316	14/63	SX	0.25	0.81	19	0.12	1.25	19	0.4	2.1	-35.7
91320	14/43	Sx	0.14	0.97	16	0.13	1.36	16	0.4	1.8	-88.8
91324	14/63	Sx	0.14	0.72	7	0.08	0.89	7	1.1	6.8	-48.3
91330	15/45	Sx	0.13	0.91	57	0.23	0.99	57	0.2	1.1	-88.8
91331	14/63	Sx	0.17	0.97	15	0.05	0.53	15	0.6	2.3	-41.3
91442	15/45	Sx	0.05	0.76	154	0.12	1.00	154	0.1	0.4	89.8
91443	14/43	Sx	0.13	1.04	17	0.05	0.54	17	0.3	1.5	89.5
91447	14/63	Sx	0.24	1..73	15	0.12	1.33	15	0.5	2.4	-37.4
91447	15/65	Sx	0.05	0.84	101	0.12	0.98	101	0.1	0.5	-38.9
91449	15/65	Sx	0.07	0.97	89	0.09	1.00	89	0.1	0.6	-43.3
91413	14/63	Sx	0.09	0.78	16	0.07	0.78	16	0.3	2.2	-35.0
91421	14/63	Sx	0.10	0.43	14	0.05	0.49	14	0.9	2.8	-35.2
91424	15/43	Sx	0.13	0.70	16	0.09	1.01	16	0.4	2.3	86.5
91428	14/63	Sx	0.07	0.59	18	0.06	0.64	18	0.4	2.5	-34.4
91511	14/43	Sx	0.10	0.79	17	0.06	0.64	17	0.3	1.6	88.5
91514	15/63	Sx	0.13	0.46	14	0.04	0.40	14	0.7	2.6	-40.9
91518	14/43	Sx	0.27	0.86	16	0.10	1.05	16	0.4	1.9	89.2
91512	14/63	Sx	0.09	0.74	17	0.03	0.30	17	0.4	2.6	-33.8
91515	14/43	SX	0.09	0.65	16	0.04	0.45	16	0.4	1.6	88.7
91517	15/45	Sx	0.10	0.92	92	0.11	1.01	92	0.1	0.6	-88.8
91519	14/63	Sx	0.13	0.51	17	0.05	0.53	17	0.4	2.1	-34.3
91519	15/4 5	Sx	0.06	0.86	168	0.07	1.09	168	0.1	0.4	-89.7
91524	15/43	Sx	0.13	0.80	15	0.05	0.53	15	0.4	2.2	85.6
91525	14/65	Sx	0.13	0.73	14	0.11	1.16	14	0.8	4.3	-49.6
91527	15/65	Sx	0.06	0.89	187	0.09	1.01	187	0.1	0.3	-38.2
91531	14/45	Sx	0.08	0.48	15	0.07	0.75	15	0.6	2.3	85.6
91611	14/65	SX	0.45	1.00	15	0.06	0.60	15	0.8	3.3	-43.9
91615	14/43	Sx	0.10	0.68	15	0.06	0.65	15	0.5	1.9	85.6
916 8	14/65	SX	0.13	0.61	14	0.08	0.87	14	0.6	3.0	-42.1

91	612	14/43	Sx	0.05	0.65	16	0.07	0.68	16	0.2	1.5	86.0
91	616	14/65	Sx	0.10	0.59	14	0.10	0.91	14	0.4	1.9	-38.9
91	619	14/43	Sx	0.06	0.59	15	0.05	0.44	15	0.3	1.6	86.4
91	621	15/45	Sx	0.10	0.89	106	0.14	0.98	106	0.1	0.6	88.5
91	623	14/63	Sx	0.06	0.70	16	0.05	0.50	16	0.5	1.4	-43.5
91	626	14/43	Sx	0.06	0.65	16	0.19	1.86	16	0.2	1.5	86.1
91	630	15/65	Sx	0.06	1.01	162	0.11	1.02	162	0.1	0.4	-41.2
91	75	14/43	Sx	0.05	0.65	16	0.08	0.77	16	0.3	1.3	-81.3
91	77	14/63	Sx	0.06	0.58	11	0.14	1.36	11	0.3	1.5	-31.9
91	79	14/43	Sx	0.10	0.85	16	0.13	1.26	16	0.3	1.6	-81.6
91	713	14/63	Sx	0.12	0.88	11	0.09	0.86	11	0.4	2.4	-32.8
91	715	14/43	Sx	0.07	0.86	16	0.14	1.29	16	0.3	1.2	90.0
91	720	14/63	Sx	0.10	1.26	15	0.14	1.33	15	0.4	2.1.	-41.2
91	725	14/43	Sx	0.05	0.49	18	0.08	0.74	18	0.2	1.2	86.3
91	728	14/63	Sx	0.08	1.08	16	0.12	1.20	16	0.3	2.0	-32.2
91	731	14/43	Sx	0.08	0.73	16	0.10	0.96	16	0.3	1.1	-83.2
91	85	14/63	Sx	0.07	0.95	18	0.07	0.66	18	0.3	1.4	-36.8
91	86	14/45	Sx	0.08	0.71	14	0.15	1.45	14	0.4	1.9	-89.7
91	811	14/65	Sx	0.11	0.53	13	0.12	1.17	13	0.8	4.0	-50.2
91	813	14/45	Sx	0.05	0.54	14	0.10	0.96	14	0.4	2.0	-78.1
91	818	14/65	Sx	0.16	0.83	14	0.09	0.88	14	0.5	2.8	-46.0
91	822	14/43	Sx	0.07	0.60	14	0.10	0.97	14	0.3	1.8	88.3
91	824	15/65	Sx	0.07	1.06	255	0.16	1.00	255	0.1	0.3	-37.0
91	825	14/63	Sx	0.15	1.00	17	0.11	1.06	17	0.5	2.3	-42.8
91	828	14/43	Sx	0.11	0.87	16	0.09	0.89	16	0.3	1.4	-81.3
91	831	15/45	Sx	0.08	1.05	257	0.13	1.01	257	0.1	0.3	-89.9
91	91	14/63	Sx	0.08	0.95	16	0.07	0.71	16	0.3	2.0	-38.6
91	95	14/43	Sx	0.11	0.95	16	0.10	0.98	16	0.3	1.0	89.1
91	912	14/43	Sx	0.05	0.50	16	0.05	0.50	16	0.3	1.1	89.1
91	914	14/63	Sx	0.06	0.44	16	0.11	1.07	16	0.4	1.5	-34.4
91	919	14/43	Sx	0.06	0.54	16	0.10	0.98	16	0.2	1.0	88.1
91	921	14/63	Sx	0.34	1.05	16	0.16	1.49	16	0.4	1.7	-42.4
91	925	14/43	Sx	0.06	0.61	17	0.06	0.60	17	0.3	1.5	85.0
91	928	14/63	Sx	0.18	1.25	14	0.19	1.86	14	0.4	1.6	-28.4
91	1102	14/43	Sx	0.04	0.36	16	0.06	0.54	16	0.3	1.3	86.0
91	1105	14/63	Sx	0.11	1.00	17	0.09	0.84	17	0.3	1.3	-37.2
91	1106	15/45	Sx	0.07	0.94	288	0.15	1.02	288	0.1	0.3	89.3
91	1108	14/43	Sx	0.04	0.49	19	0.05	0.44	19	0.3	1.5	85.1
91	11013	14/63	Sx	0.05	0.58	16	0.06	0.59	16	0.3	1.3	-35.2
91	11016	14/43	Sx	0.06	0.57	18	0.08	0.72	18	0.3	1.0	-89.3
91	11020	14/63	Sx	0.08	0.67	8	0.06	0.62	8	0.5	2.2	-35.3
91	11022	14/43	Sx	0.07	0.73	17	0.07	0.66	17	0.2	1.0	-86.8
91	11027	14/63	Sx	0.02	0.14	6	0.09	0.85	6	0.4	3.2	-36.7
91	11031	14/43	Sx	0.10	1.17	18	0.06	0.62	18	0.2	1.0	89.9
91	1112	14/63	Sx	0.03	0.55	15	0.09	0.80	15	0.3	1.5	-37.1
91	1115	14/43	Sx	0.13	0.72	16	0.07	0.70	16	0.3	1.2	-87.7
91	11111	15/65	Sx	0.06	0.92	237	0.12	1.00	237	0.1	0.3	-39.4
91	11116	14/63	Sx	0.08	0.78	16	0.10	0.90	16	0.3	1.2	-33.7
91	11117	15/45	Sx	0.08	0.93	258	0.15	0.99	258	0.1	0.3	89.4
91	11120	14/43	Sx	0.08	0.80	17	0.10	0.93	17	0.2	1.1	-85.3
91	11124	14/63	Sx	0.05	0.57	17	0.04	0.37	17	0.3	1.3	-36.7
91	11128	14/43	Sx	0.07	0.78	17	0.08	0.74	17	0.2	1.1	-87.8
91	1122	14/63	Sx	0.11	1.04	16	0.03	0.33	16	0.3	1.4	-38.5
91	1124	14/43	Sx	0.05	0.43	18	0.05	0.50	18	0.2	1.0	-89.9
91	1129	14/63	Sx	0.11	1.01	17	0.06	0.53	17	0.3	1.3	-35.4
91	11210	14/43	Sx	0.07	0.70	19	0.09	0.88	19	0.2	1.0	-89.1

911214	L4/63	Sx	0.57	1.47	17	0.05	0.46	17	0.7	2.4	-43.1
911217	L4/43	Sx	0.10	0.63	18	0.06	0.54	18	0.2	0.9	-88.5
911223	L4/63	Sx	0.06	0.78	16	0.03	0.30	16	0.3	1.5	-36.4
911223	L5/65	Sx	0.07	1.11	239	0.13	0.99	239	0.1	0.3	-37.4
311226	14/43	Sx	0.04	0.44	12	0.06	0.60	12	0.3	1.1	-87.8
311230	14/63	Sx	0.05	0.64	16	0.13	1.26	16	0.3	1.0	-36.3
311231	14/43	Sx	0.10	0.80	17	0.18	1.74	17	0.3	1.2	88.2
9214	15/45	Sx	0.06	0.86	215	0.14	1.00	215	0.1	0.3	89.9
9216	14/63	Sx	0.06	0.57	16	0.09	0.86	16	0.3	1.5	-35.2
9217	14/43	Sx	0.07	0.74	17	0.08	0.73	17	0.2	0.9	-89.3
92112	14/63	Sx	0.06	0.70	17	0.09	0.85	17	0.3	1.3	-34.5
92114	14/43	Sx	0.05	0.51	17	0.07	0.66	17	0.3	1.1	87.2
92119	14/63	Sx	0.03	0.42	16	0.03	0.26	16	0.2	1.6	-34.7
92121	14/43	Sx	0.11	1.13	17	0.17	1.58	17	0.3	1.0	89.8
92126	14/63	Sx	0.06	0.73	13	0.05	0.50	13	0.2	1.6	-32.5
92128	14/43	Sx	0.03	0.32	19	0.07	0.64	19	0.2	0.9	-87.5
9221	14/63	Sx	0.04	0.57	16	0.03	0.25	16	0.2	1.2	-32.8
9222	15/65	Sx	0.07	0.88	276	0.05	1.01	276	0.0	0.2	-39.3
9225	14/43	Sx	0.04	0.49	17	0.07	0.68	17	0.2	1.3	85.7
9226	14/63	Sx	0.07	0.80	14	0.08	0.72	14	0.3	1.4	-31.5
92212	14/43	Sx	0.16	1.58	18	0.22	2.09	18	0.2	1.0	-88.5
92216	14/63	Sx	0.05	0.64	17	0.17	1.60	17	0.2	1.2	-32.3
92219	14/45	Sx	0.08	0.81	17	0.10	0.94	17	0.3	1.1	-87.7
92223	14/63	Sx	0.04	0.57	15	0.11	1.09	15	0.4	1.4	-34.2
92227	14/45	Sx	0.10	0.54	8	0.04	0.41	8	0.6	2.6	-82.7
92229	14/63	Sx	0.04	0.56	11	0.05	0.48	11	0.7	4.3	-34.3
9236	14/45	Sx	0.08	0.86	17	0.19	1.84	17	0.3	1.3	87.6
9238	14/63	Sx	0.08	0.96	15	0.11	1.05	15	0.3	1.5	-37.5
92312	14/43	Sx	0.05	0.51	17	0.03	0.31	17	0.2	1.0	88.5
92314	15/45	Sx	0.10	0.99	323	0.13	1.01	323	0.1	0.3	-89.6
92316	14/63	Sx	0.07	0.87	11	0.03	0.28	11	0.3	1.5	-35.3
92319	14/43	Sx	0.05	0.64	19	0.09	0.83	19	0.2	1.1	87.5
92321	15/65	Sx	0.07	1.01	284	0.11	0.98	284	0.1	0.3	-37.3
92322	14/63	Sx	0.13	0.66	16	0.09	0.81	16	0.3	1.6	-33.1
92322	15/45	Sx	0.09	1.09	331	0.13	1.00	331	0.0	0.2	89.8
92324	14/43	Sx	0.06	0.59	17	0.06	0.62	17	0.2	1.0	88.7
92328	15/65	Sx	0.06	0.96	306	0.10	1.01	306	0.0	0.2	-38.2
92330	14/63	Sx	0.14	1.31	16	0.17	1.70	16	0.3	1.7	-29.3
9242	14/43	Sx	0.07	0.73	18	0.08	0.77	18	0.2	1.0	89.3
9244	15/45	Sx	0.06	0.80	314	0.13	1.02	314	0.1	0.2	-89.1
9245	14/63	Sx	0.12	1.09	16	0.13	1.30	16	0.3	1.7	-32.7
9249	14/43	Sx	0.04	0.42	18	0.05	0.50	18	0.2	1.0	88.7
92411	14/63	Sx	0.05	0.62	16	0.11	1.01	16	0.2	1.4	-32.4
92411	15/45	Sx	0.06	0.88	328	0.10	0.99	328	0.0	0.2	-89.6
92413	15/65	Sx	0.09	0.98	269	0.14	1.01	269	0.1	0.3	-37.3
92414	14/43	Sx	0.04	0.43	17	0.11	1.01	17	0.2	1.0	88.5
92418	15/45	Sx	0.07	0.85	313	0.13	1.00	313	0.1	0.2	89.8
92419	14/63	Sx	0.05	0.67	16	0.04	0.38	16	0.3	1.4	-32.8
92420	15/65	Sx	0.10	1.36	250	0.08	1.02	250	0.1	0.3	-38.7
92423	14/43	Sx	0.04	0.51	16	0.05	0.48	16	0.2	1.1	87.6
92425	14/63	Sx	0.05	0.56	15	0.05	0.51	15	0.3	1.4	-31.2
92428	14/43	Sx	0.12	1.29	17	0.10	0.98	17	0.2	1.1	89.0
9253	14/63	Sx	0.05	0.74	16	0.08	0.80	16	0.3	1.5	-32.5
9256	14/43	Sx	0.05	0.61	16	0.07	0.69	16	0.2	1.1	87.0
92510	15/45	Sx	0.08	0.97	303	0.13	1.01	303	0.1	0.3	-89.1
92513	14/43	Sx	0.09	0.84	17	0.08	0.81	17	0.2	1.0	88.5

92 517	14/63	Sx	0.08	0.81	19	0.05	0.43	19	0.3	1.4	-36.0
92 518	14/43	Sx	0.14	0.84	17	0.09	0.83	17	0.2	1.0	88.6
92 527	14/43	Sx	0.04	0.45	15	0.06	0.60	15	0.3	1.2	82.9
92 531.	14/63	Sx	0.06	0.75	18	0.07	0.71	18	0.2	1.2	-32.7
92 627	14/63	Sx	0.22	1.09	17	0.15	1.44	17	0.3	1.3	-32.9
92 612	14/43	Sx	0.11	1.11	17	0.13	1.22	17	0.2	1.1	86.0
92 614	14/63	Sx	0.11	1.03	15	0.12	1.13	15	0.4	1.9	-36.4
92 617	14/43	Sx	0.08	0.78	17	0.05	0.51	17	0.3	1.0	88.3
92 619	14/63	Sx	0.08	0.81	17	0.08	0.78	17	0.2	1.2	-32.8
92 624	14/43	Sx	0.09	0.91	16	0.10	0.96	16	0.2	1.0	89.0
92 722	15/43	Sx	0.06	0.60	16	0.09	0.80	16	0.4	1.6	87.4
92 724	15/63	Sx	0.25	0.71	14	0.13	1.20	14	0.5	3.3	-36.7
92 725	15/45	Sx	0.13	0.94	263	0.19	1.00	263	0.1	0.4	-86.5
92 728	1.5/43	Sx	0.08	0.61	16	0.10	0.93	16	0.3	1.1	88.4
92 712	15/63	Sx	0.32	1.07	11	0.10	0.93	11	0.6	2.4	-40.9
92 714	15/43	Sx	0.10	0.74	17	0.05	0.50	17	0.5	1.8	-79.3
92 719	1.5/63	Sx	0.08	0.67	17	0.05	0.53	17	0.4	1.7	-34.5
92 721	15/43	Sx	0.02	0.22	6	0.02	0.20	6	0.6	3.3	-83.2
92 725	14/63	Sx	0.07	0.90	16	0.12	1.19	16	0.3	1.5	-30.8
92 728	14/43	Sx	0.09	0.46	15	0.11	1.07	15	0.6	1.7	86.2
92 8 2	14/63	Sx	0.12	0.95	16	0.10	0.94	16	0.3	1.5	-32.1
92 84	14/43	Sx	0.13	0.73	16	0.14	1.34	16	0.4	1.9	86.4
92 8 9	14/63	Sx	0.29	1.39	15	0.12	1.09	15	0.8	2.6	-38.6
92 811	14/43	Sx	0.07	0.72	17	0.09	0.84	17	0.4	1.4	-84.0
92 818	15/43	Sx	0.06	0.64	15	0.15	1.42	15	0.4	1.3	-87.2
92 822	15/63	Sx	0.07	0.69	16	0.13	1.22	16	0.3	1.5	-33.7
92 823	15/65	Sx	0.06	0.87	267	0.12	1.03	267	0.1	0.3	-39.4
92 825	14/43	Sx	0.04	0.38	17	0.07	0.68	17	0.3	1.1	-85.6
92 829	14/63	Sx	0.06	0.76	15	0.10	0.95	15	0.3	2.0	-30.8
92 91	14/43	Sx	0.27	0.53	9	0.11	1.08	9	2.8	9.7	-74.4
92 9 5	14/63	Sx	0.06	0.58	11	0.05	0.50	11	0.5	2.1	-37.6
92 91(	14/43	Sx	0.04	0.45	17	0.10	0.92	17	0.4	1.3	-82.2
92 912	14/63	Sx	0.06	0.69	17	0.09	0.88	17	0.2	1.5	-35.8
92 916	14/43	Sx	0.07	0.54	17	0.13	1.23	17	0.3	1.0	88.9
92 919	14/63	Sx	0.10	1.33	17	0.06	0.54	17	0.2	1.3	-36.6
92 922	15/65	Sx	0.07	0.96	249	0.14	1.02	249	0.1	0.4	-39.0
92 924	14/43	Sx	0.08	0.66	17	0.07	0.65	17	0.3	1.4	85.4
92 926	14/63	Sx	0.14	1.29	17	0.08	0.77	17	0.3	1.3	-34.9
92 93(	14/43	Sx	0.06	0.69	17	0.06	0.54	17	0.3	1.1	-88.2
9210 3	14/63	Sx	0.24	0.96	10	0.10	0.97	10	0.4	1.9	-31.4
9210 7	14/43	Sx	0.03	0.43	14	0.04	0.37	14	0.3	1.7	83.7
92101C	14/63	Sx	0.07	0.67	16	0.10	0.92	16	0.2	1.2	-32.2
921017	15/63	Sx	0.04	0.51	18	0.07	0.62	18	0.2	1.3	-32.1
921022	14/43	Sx	0.05	0.53	16	0.07	0.69	16	0.3	1.2	86.1
921024	14/63	Sx	0.08	1.02	18	0.14	1.34	18	0.2	1.3	-37.3
92102[	14/43	Sx	0.06	0.64	17	0.11	1.09	17	0.4	1.4	-82.3
921031	14/63	Sx	0.06	0.77	19	0.12	1.21	19	0.2	1.3	-31.3
9211 1	15/45	Sx	0.07	0.91	327	0.14	1.01	327	0.1	0.3	-88.3
9211 7	14/65	Sx	0.10	0.78	15	0.04	0.38	15	0.5	2.2	-36.1
921111	14/43	Sx	0.05	0.44	16	0.06	0.56	16	0.3	1.1	85.1
921113	15/63	Sx	0.09	0.84	15	0.09	0.82	15	0.4	1.6	-34.1
921116	15/45	Sx	0.08	1.06	311	0.14	1.00	311	0.1	0.3	-89.5
921118	15/43	Sx	0.07	0.67	18	0.05	0.46	18	0.3	1.1	86.8
921.121	15/63	Sx	0.09	0.69	12	0.03	0.24	12	0.3	1.6	-35.6
921122	15/65	Sx	0.08	1.03	309	0.11	1.01	309	0.1	0.3	-42.8
921125	15/43	Sx	0.09	0.79	15	0.09	0.84	15	0.3	1.5	86.4

921129	14/63	Sx	0.05	0.75	18	0.06	0.61	18	0.2	1.3	-37.0
9212 1	14/45	Sx	0.08	0.71	17	0.12	1.14	17	0.2	1.0	-87.5
9212 6	14/65	Sx	0.12	0.82	17	0.07	0.69	17	0.3	1.7	-34.3
921210	14/45	Sx	0.12	1.22	17	0.11	1.04	17	0.4	1.4	-83.0
921212	14/63	Sx	0.22	0.99	12	0.07	0.70	12	0.5	2.0	-37.9
921216	15/43	Sx	0.06	0.49	17	0.06	0.57	17	0.3	1.3	89.1
921219	15/63	Sx	0.06	0.66	16	0.08	0.81	16	0.3	1..6	-36.3
921224	14/43	Sx	0.02	0.31	8	0.15	1.48	8	0.6	4.8	-82.7
921227	14/63	Sx	0.02	0.20	9	0.04	0.39	9	0.6	2.6	-32.2
921227	15/65	Sx	0.08	0.96	297	0.10	0.99	297	0.1	0.3	-41.4
93 110	1.4/63	Sx	0.08	1.03	17	0.10	1.00	17	0.2	1.1	-31.3
93 113	14/43	Sx	0.09	0.65	15	0.16	1.47	15	0.5	1.9	82.8
93 117	14/63	Sx	0.08	0.65	16	0.11	1.00	16	0.3	1.3	-33.5
93 120	14/43	Sx	0.15	0.75	15	0.31	1.17	15	0.7	2.5	87.7
93 124	14/63	Sx	0.03	0.31	17	0.04	0.43	17	0.3	1..7	-36.8
93 131	14/63	Sx	0.06	1.01	17	0.06	0.61	17	0.3	1..4	-35.2
93 2 3	14/43	Sx	0.07	0.75	14	0.09	0.91.	14	0.4	1..3	-84.8
93 2 7	14/63	Sx	0.06	0.79	18	0.05	0.50	18	0.2	1..1	-30.8
93 210	14/43	Sx	0.07	0.77	16	0.18	1.75	16	0.3	1.2	88.3
93 213	14/63	Sx	0.04	0.46	19	0.05	0.49	19	0.2	1.2	-31.1
93 217	14/43	Sx	0.09	0.88	16	0.13	1.25	16	0.3	1.3	88.5
93 220	14/63	Sx	0.23	0.94	17	0.10	1.00	17	0.3	1.4	-30.5
93 225	14/45	Sx	0.05	0.53	15	0.05	0.47	15	0.3	1.2	-88.5
93 227	14/63	Sx	0.14	1.00	17	0.12	1.09	17	0.4	1.7	-39.0
93 3 3	1.4/45	Sx	0.05	0.48	16	0.11	1.02	16	0.2	1.0	-87.3
93 312	14/45	Sx	0.08	0.74	15	0.06	0.62	15	0.3	2.0	-88.1

EXPLANATION OF INTEGER KEYS USED IN EOP(JPL) 93 R 01

Field 17 describes the baseline used in the pass. For example, an entry in field 17 of 1563 means that the two stations involved were DSS 15 (Goldstone) and DSS 63 (Madrid), and that the baseline vector points from DSS 15 to DSS 63.

Field 18 is a code, where the first character describes the project, the second character describes the frequency band, and the third character describes the frequency standard configuration.

The following key displays the possible entries for the first character (i.e. the hundreds digit), which specifies the project that conducted the observations:

2 = > Catalog Maintenance and Enhancement project
1 = > Time and Earth Motion Precision Observations project

The following key displays the possible entries for the second character (i.e. the tens digit), describing the frequency band:

2 = > Data type was combined S/X
1 = > Data type was X band only
0 = > Data type was S band only (not normally reported)

The following key displays the possible entries for the third character (i.e. the units digit), describing the frequency standard configuration:

0 = > Both stations employed Hydrogen Maser frequency standards.
1 = > At least one station employed a Cesium frequency standard.
2 = > Frequency distribution equipment problems required an increased "additive noise constant" to account for increased noise.

For example, if the entry for field 18 was 120, this would mean the observing session was conducted by the TEMPO project, used dual-band (S/X) observable, and used H2 maser frequency standards at both stations.

DEEP SPACE NEWWORK VI-BI EARTH ORIENTATION DATA FROM REFERENCE FRAME JPL 1993-1 IN THE IERS FORMAT

MJD	VAR LAT SECONDS OF' ARC	UT0-UTC SECONDS OF TIME	VAR LAT ERROR ARC SEC	UT0 ERR SECONDS OF TIME	RMS DELAY NSEC	CORR VAR LAT -UTO	BSIN CODE
43809.020	-0.31554	0.	-0.215070	0. 0.	0.00043	0. 0. 0.32	-0.1765 0. 0. 0. 1443 220
43816.758	-0.28761	0.	-0.239723	0. 0.	0.00051	0. 0. 0.32	0.1230 0. 0. 0. 1443 220
43873.422	-0.12188	0.	-0.407725	0. 0.	0.00027	0. 0. 0.34	-0.0875 0. 0. 0. 1443 220
44200.813	-0.34994	0.	-0.258900	0. 0.	0.00185	0. 0. 0.58	0.2263 0. 0. 0. 1443 220
44203.301	-0.04536	0.	-0.260553	0. 0.	0.00179	0. 0. 0.54	-0.8596 0. 0. 0. 1463 220
44227.570	-0.30197	0.	-0.329741	0. 0.	0.00034	0. 0. 0.51	0.0371 0. 0. 0. 1443 220
4427.8707	-0.01548	0.	-0.326748	0. 0.	0.00552	0. 0. 0.57	-0.8808 0. 0. 0. 1463 220
44234.801	-0.01159	0.	-0.342847	0. 0.	0.00313	0. 0. 0.55	-0.8401 0. 0. 0. 1463 220
44236.652	-0.28486	0.	-0.353357	0. 0.	0.00058	0. 0. 0.41	-0.0657 0. 0. 0. 1443 220
44250.828	-0.26117	0.	0.612430	0. 0.	0.00048	0. 0. 0.44	0.1289 0. 0. 0. 1443 220
44263.988	-0.00640	0.	0.581690	0. 0.	0.00436	0. 0. 0.59	-0.8630 0. 0. 0. 1463 220
44265.613	-0.23476	0.	0.573409	0. 0.	0.00075	0. 0. 0.39	0.1690 0. 0. 0. 1443 220
44283.211	-0.02848	0.	0.540459	0. 0.	0.00189	0. 0. 0.55	-0.8595 0. 0. 0. 1463 220
44283.918	-0.20273	0.	0.536114	0. 0.	0.00059	0. 0. 0.38	-0.0502 0. 0. 0. 1443 220
44292.785	-0.19486	0.	0.510367	0. 0.	0.00036	0. 0. 0.45	0.2937 0. 0. 0. 1443 220
44293.531	-0.03795	0.	0.510683	0. 0.	0.00330	0. 0. 0.41	-0.8439 0. 0. 0. 1463 220
44439.918	-0.18472	0.	0.177234	0. 0.	0.00430	0. 0. 0.32	-0.8667 0. 0. 0. 1463 120
44445.434	-0.20988	0.	0.171323	0. 0.	0.01134	0. 0. 0.19	-0.9482 0. 0. 0. 1463 120
44475.359	-0.17836	0.	0.116815	0. 0.	0.01226	0. 0. 0.31	-0.9567 0. 0. 0. 1463 120
44475.488	-0.30552	0.	0.125462	0. 0.	0.00403	0. 0. 0.39	-0.7466 0. 0. 0. 1443 121
44505.391	-0.32030	0.	0.058352	0. 0.	0.00404	0. 0. 0.38	-0.7127 0. 0. 0. 1443 120
44506.379	-0.18694	0.	0.048586	0. 0.	0.01304	0. 0. 0.25	-0.7499 0. 0. 0. 1463 120
44512.387	-0.32653	0.	0.039148	0. 0.	0.00172	0. 0. 0.23	-0.5218 0. 0. 0. 1443 120
44528.363	-0.33912	0.	0.001181	0. 0.	0.00276	0. 0. 0.31	-0.4136 0. 0. 0. 1443 120
44529.113	-0.18891	0.	-0.005865	0. 0.	0.00861	0. 0. 0.16	-0.8192 0. 0. 0. 1463 120
44565.285	-0.36396	0.	-0.095966	0. 0.	0.00208	0. 0. 0.30	-0.6544 0. 0. 0. 1443 120
44581.258	-0.36146	0.	-0.135168	0. 0.	0.00416	0. 0. 0.23	-0.0374 0. 0. 0. 1443 120
44587.012	-0.19465	0.	-0.)49270	0. 0.	0.01829	0. 0. 0.15	-0.9255 0. 0. 0. 1463 121
44587.227	-0.36820	0.	-0.149810	0. 0.	0.00821	0. 0. 0.25	-0.9473 0. 0. 0. 1443 120
44596.391	-0.38876	0.	-0.174328	0. 0.	0.01244	0. 0. 0.31	0.9046 0. 0. 0. 1443 120
44639.410	-0.34552	0.	-0.273911	0. 0.	0.00238	0. 0. 0.46	-0.1543 0. 0. 0. 1443 120
44646.363	-0.34156	0.	-0.292500	0. 0.	0.00397	0. 0. 0.52	-0.5796 0. 0. 0. 1443 120
44654.313	-0.34552	0.	-0.314161	0. 0.	0.02337	0. 0. 0.55	0.3106 0. 0. 0. 1443 120
44664.009	-0.0783)	0.	-0.334895	0. 0.	0.01341	0. 0. 0.43	-0.8473 0. 0. 0. 1463 120
44734.184	-0.06051	0.	-0.518547	0. 0.	0.01693	0. 0. 0.52	-0.9081 0. 0. 0. 1463 121
44740.344	-0.226190	0.	-0.536584	0. 0.	0.00185	0. 0. 0.36	0.5425 0. 0. 0. 1443 120
44755.180	-0.03919	0.	-0.569000	0. 0.	0.01337	0. 0. 0.17	-0.3853 0. 0. 0. 1463 120
44755.305	-0.25057	0.	-0.572935	0. 0.	0.00262	0. 0. 0.37	0.5338 0. 0. 0. 1443 121
44769.141	-0.06057	0.	-0.599891	0. 0.	0.02187	0. 0. 0.33	-0.620) 0. 0. 0. 1463 120
44769.262	-0.23178	0.	-0.603331	0. 0.	0.00258	0. 0. 0.26	0.4597 0. 0. 0. 1443 120
44804.047	-0.04517	0.	0.353157	0. 0.	0.00610	0. 0. 0.31	-0.7841 0. 0. 0.)463 120
44804.)64	-0.20492	0.	0.350161	0. 0.	0.00269	0. 0. 0.31	0.6907 0. 0. 0. 1443 120
44811.605	-0.19316	0.	0.338090	0. 0.	0.00220	0. 0. 0.28	-0.7599 0. 0. 0. 1443 120
44817.590	-0.18894	0.	0.329658	0. 0.	0.00137	0. 0. 0.27	-0.6319 0. 0. 0. 1443 120
44818.277	-0.05055	0.	0.329647	0. 0.	0.00519	0. 0. 0.22	-0.8990 0. 0. 0. 1463 120
44947.410	-0.28345	0.	0.078664	0. 0.	0.00067	0. 0. 0.65	-0.3394 0. 0. 0. 1343 220
44956.293	-0.30612	0.	0.057550	0. 0.	0.00191	0. 0. 0.51	-0.1190 0. 0. 0. 1443 120
44972.281	-0.02216	0.	0.031152	0. 0.	0.00955	0. 0. 0.44	-0.8128 0. 0. 0. 6343 120
44977.984	-0.26088	0.	-0.000970	0. 0.	0.00557	0. 0. 0.20	-0.6834 0. 0. 0. 1463 120
44992.223	-0.37841	0.	-0.02066)	0. 0.	0.00177	0. 0. 0.16	-0.0246 0. 0. 0. 1443 120
45008.824	-0.40736	0.	-0.054800	0. 0.	0.00150	0. 0. 0.41	-0.4650 0. 0. 0. 1443 120
45013.762	-0.23)14	0.	-0.073277	0. 0.	0.00326	0. 0. 0.26	-0.8880 0. 0. 0. 1463 120
45020.492	-0.22378	0.	-0.086713	0. 0.	0.00358	0. 0. 0.28	-0.8980 0. 0. 0. 1463 120
45021.891	-0.41626	0.	-0.083356	0. 0.	0.00120	0. 0. 0.37	-0.1528 0. 0. 0. 1443 120
45028.645	-0.42853	0.	-0.103986	0. 0.	0.00328	0. 0. 0.45	-0.7193 0. 0. 0. 1443 120
45054.785	-0.13773	0.	-0.168459	0. 0.	0.00392	0. 0. 0.14	-0.8887 0. 0. 0. 1463 120
45057.004	-0.44539	0.	-0.174378	0. 0.	0.00233	0. 0. 0.34	-0.5674 0. 0. 0. 1443 120
45067.281	-0.44128	0.	-0.204033	0. 0.	0.00064	0. 0. 0.29	-0.1763 0. 0. 0. 1443 120
45071.742	-0.11011	0.	-0.213579	0. 0.	0.00691	0. 0. 0.06	-0.9254 0. 0. 0. 1463 120
45096.309	-0.04791	0.	-0.278097	0. 0.	0.00370	0. 0. 0.49	-0.8647 0. 0. 0. 1463 120
45102.934	-0.40481	0.	-0.298709	0. 0.	0.00170	0. 0. 0.25	-0.4557 0. 0. 0. 1443 120
45112.066	-0.00241	0.	-0.311860	0. 0.	0.00283	0. 0. 0.34	-0.7994 0. 0. 0. 1463 120
45113.168	-0.38688	0.	-0.322596	0. 0.	0.00072	0. 0. 0.25	-0.1569 0. 0. 0. 1443 120
45118.918	0.05244	0.	-0.328319	0. 0.	0.05346	0. 0. 0.26	-0.9337 0. 0. 0. 1463 120
45151.852	-0.29044	0.	0.598098	0. 0.	0.00050	0. 0. 0.48	-0.1538 0. 0. 0. 1343 220
45152.371	-0.29031	0.	0.597480	0. 0.	0.00322	0. 0. 0.30	-0.6634 0. 0. 0. 1243 120
45154.113	0.08135	0.	0.606163	0. 0.	0.00227	0. 0. 0.62	-0.8631 0. 0. 0. 1363 220
45167.383	-0.24274	0.	0.575080	0. 0.	0.00313	0. 0. 0.37	0.2976 0. 0. 0. 1243 121
45168.383	0.10090	0.	0.585296	0. 0.	0.01110	0. 0. 0.64	-0.3049 0. 0. 0. 1443 121
45194.391	-0.18402	0.	0.537755	0. 0.	0.00531	0. 0. 0.31	-0.8902 0. 0. 0. 1263 120
45196.434	0.08960	0.	0.547795	0. 0.	0.00822	0. 0. 0.16	0.5856 0. 0. 0. 1243 121
45198.246	0.08923	0.	0.545005	0. 0.	0.00240	0. 0. 0.24	-0.8039 0. 0. 0. 1263 120
45223.602	-0.08152	0.	0.486156	0. 0.	0.00654	0. 0. 0.52	-0.8321 0. 0. 0. 1363 220
45231.031	-0.01632	0.	0.480801	0. 0.	0.02161	0. 0. 0.37	-0.9401 0. 0. 0. 1461 120
45238.012	0.00000	0.	0.460923	0. 0.	0.01378	0. 0. 0.48	-0.7454 0. 0. 0. 1461 120
45238.582	-0.07285	0.	0.456180	0. 0.	0.00636	0. 0. 0.31	0.0404 0. 0. 0. 1443 121
45245.168	-0.01755	0.	0.444512	0. 0.	0.01131	0. 0. 0.43	-0.9394 0. 0. 0. 1461 120
45246.098	-0.01822	0.	0.442574	0. 0.	0.00195	0. 0. 0.40	-0.8830 0. 0. 0. 1461 220
45255.6547	-0.07301	0.	0.404208	0. 0.	0.00685	0. 0. 0.68	-0.3907 0. 0. 0. 1443 121
45255.9148	-0.12516	0.	0.366841	0. 0.	0.00641	0. 0. 0.37	-0.8724 0. 0. 0. 1461 120
45255.9535	-0.07291	0.	0.37? .825	0. 0.	0.00198	0. 0. 0.63	0.4322 0. 0. 0. 1443 121

45283.996	-0.14008	0.	0.354877	0.	0.	0.00688	0.	0.000444	0.	0.	0.50	-0.8932	0.	0.	0.	1461	120
45287.613	-0.07714	0.	0.353365	0.	0.	0.00142	0.	0.000566	0.	0.	0.77	0.0451	0.	0.	0.	1443	121
45298.)80	-0.18969	0.	0.32)089	0.	0.	0.00383	0.	0.000195	0.	0.	0.31	-0.8331	0.	0.	0.	1463	120
45301.375	-0.20836	0.	0.312510	0.	0.	0.00088	0.	0.000049	0.	0.	0.27	-0.8713	0.	0.	0.	1463	220
45303.551	-0.09952	0.	0.318019	0.	0.	0.00061	0.	0.000188	0.	0.	0.39	0.0251	0.	0.	0.	1443	2.20
45307.965	-0.23462	0.	0.295975	0.	0.	0.00405	0.	0.000297	0.	0.	0.49	-0.8748	0.	0.	0.	1463	120
45315.160	-0.25394	0.	0.276116	0.	0.	0.00357	0.	0.000243	0.	0.	0.55	-0.7728	0.	0.	0.	1463	120
45320.504	-0.14395	0.	0.279018	0.	0.	0.00083	0.	0.000327	0.	0.	0.34	0.0871	0.	0.	0.	1443	120
45322.090	-0.27094	0.	0.261089	0.	0.	0.00444	0.	0.000345	0.	0.	0.20	-0.8701	0.	0.	0.	1463	120
45336.277	-0.31091	0.	0.22)4828	0.	0.	0.00320	0.	0.000189	0.	0.	0.37	-0.8486	0.	0.	0.	1463	120
45342.148	-0.32580	0.	0.208108	0.	0.	0.00340	0.	0.000202	0.	0.	0.38	-0.8229	0.	0.	0.	1463	120
45345.512	-0.22007	0.	0.218120	0.	0.	0.00072	0.	0.000239	0.	0.	0.20	-0.3426	0.	0.	0.	1443	120
45357.039	-0.26235	0.	0.186586	0.	0.	0.00026	0.	0.000104	0.	0.	0.19	0.1315	0.	0.	0.	1443	220
45358.543	-0.26771	0.	0.180815	0.	0.	0.00085	0.	0.000377	0.	0.	0.19	0.1779	0.	0.	0.	1443	120
45359.348	-0.34686	0.	0.161226	0.	0.	0.00073	0.	0.000039	0.	0.	0.22	-0.8700	0.	0.	0.	1463	220
45363.063	-0.35501	0.	0.150451	0.	0.	0.00327	0.	0.000179	0.	0.	0.29	-0.7691	0.	0.	0.	1463	120
45363.266	-0.28391	0.	0.167055	0.	0.	0.00115	0.	0.000409	0.	0.	0.25	0.1093	0.	0.	0.	1443	120
45370.258	-0.31309	0.	0.143526	0.	0.	0.00109	0.	0.000418	0.	0.	0.39	0.0769	0.	0.	0.	1443	120
45371.313	-0.35495	0.	0.122889	0.	0.	0.00270	0.	0.000154	0.	0.	0.21	-0.8256	0.	0.	0.	1463	120
45380.457	-0.34973	0.	0.116912	0.	0.	0.00090	0.	0.000354	0.	0.	0.45	-0.12,78	0.	0.	0.	1442	120
45387.910	-0.38739	0.	0.078109	0.	0.	0.01001	0.	0.000226	0.	0.	0.39	-0.6982	0.	0.	0.	1463	120
45398.094	-0.37513	0.	0.044822	0.	0.	0.00312	0.	0.000175	0.	0.	0.40	-0.8276	0.	0.	0.	1463	120
45418.270	-0.46077	0.	0.005080	0.	0.	0.00892	0.	0.002163	0.	0.	0.18	0.8559	0.	0.	0.	1442	121
45418.789	-0.35081	0.	-0.012845	0.	0.	0.00566	0.	0.000356	0.	0.	0.52	-0.7314	0.	0.	0.	1463	120
45432.441	-0.31112	0.	-0.053681	0.	0.	0.00067	0.	0.000039	0.	0.	0.19	-0.8523	0.	0.	0.	1463	220
45437.816	-0.29534	0.	-0.069401	0.	0.	0.00352	0.	0.000199	0.	0.	0.46	-0.7755	0.	0.	0.	1463	120
45447.742	-0.25259	0.	-0.096923	0.	0.	0.00330	0.	0.000175	0.	0.	0.43	-0.8520	0.	0.	0.	1463	120
45447.941	--0.53914	0.	-0.093390	0.	0.	0.00333	0.	0.000731	0.	0.	0.56	-0.5500	0.	0.	0.	1442	120
45458.727	-0.21791	0.	-0.124087	0.	0.	0.00380	0.	0.000187	0.	0.	0.52	-0.8581	0.	0.	0.	1463	120
45458.953	-0.55216	0.	-0.21401	0.	0.	0.00192	0.	0.000694	0.	0.	0.40	-0.0874	0.	0.	0.	1442	120
45474.844	-0.55815	0.	-0.164719	0.	0.	0.00018	0.	0.000059	0.	0.	0.17	0.2189	0.	0.	0.	1443	220
45476.379	-0.14764	0.	-0.168044	0.	0.	0.00087	0.	0.000056	0.	0.	0.24	-0.8150	0.	0.	0.	1463	220
45477.336	-0.55384	0.	-0.171119	0.	0.	0.00105	0.	0.000354	0.	0.	0.47	0.3429	0.	0.	0.	1443	120
45478.383	-0.13621	0.	-0.173477	0.	0.	0.00346	0.	0.000171	0.	0.	0.33	-0.8272	0.	0.	0.	1463	120
45487.199	-0.10232	0.	-0.191245	0.	0.	0.00643	0.	0.000331	0.	0.	0.24	-0.2918	0.	0.	0.	1463	120
45487.453	--0.54445	0.	-0.196282	0.	0.	0.00080	0.	0.000369	0.	0.	0.31	-0.1199	0.	0.	0.	1443	120
45523.227	-0.45920	0.	0.729259	0.	0.	0.00241	0.	0.000901	0.	0.	0.60	-0.0577	0.	0.	0.	1243	22
45531.605	0.04099	0.	0.732532	0.	0.	0.01957	0.	0.001688	0.	0.	0.50	-0.9212	0.	0.	0.	1263	122
45532.324	-0.42896	0.	0.713447	0.	0.	0.00171	0.	0.000681	0.	0.	0.79	-0.3452	0.	0.	0.	1243	122
45540.445	-0.40259	0.	0.704982	0.	0.	0.00256	0.	0.000897	0.	0.	0.75	0.4047	0.	0.	0.	1243	122
45541.496	0.09646	0.	0.715251	0.	0.	0.00907	0.	0.000883	0.	0.	0.58	-0.7878	0.	0.	0.	1263	122
45549.676	-0.36642	0.	0.685358	0.	0.	0.00467	0.	0.001168	0.	0.	0.28	-0.7288	0.	0.	0.	1243	122
45557.551	0.13641	0.	0.691698	0.	0.	0.01250	0.	0.001331	0.	0.	0.54	-0.9287	0.	0.	0.	1263	122
45566.473	0.16455	0.	0.674405	0.	0.	0.01123	0.	0.001144	0.	0.	1.30	-0.9049	0.	0.	0.	1263	122
45567.641	-0.29613	0.	0.658350	0.	0.	0.00317	0.	0.000949	0.	0.	0.26	-0.6343	0.	0.	0.	1243	122
45574.395	0.15761	0.	0.663316	0.	0.	0.00946	0.	0.001019	0.	0.	0.77	-0.9109	0.	0.	0.	1263	122
45575.621	-0.25938	0.	0.641750	0.	0.	0.00273	0.	0.000796	0.	0.	0.47	-0.5888	0.	0.	0.	1243	122
45583.426	-0.17926	0.	0.645816	0.	0.	0.01032	0.	0.001111	0.	0.	0.86	-0.8980	0.	0.	0.	1263	122
45584.523	-0.21403	0.	0.627092	0.	0.	0.00235	0.	0.000711	0.	0.	0.62	-0.3071	0.	0.	0.	1243	122
45593.578	-0.16932	0.	0.607033	0.	0.	0.00471	0.	0.001259	0.	0.	0.69	-0.6040	0.	0.	0.	1243	122
45600.309	-0.17215	0.	0.613385	0.	0.	0.01014	0.	0.001193	0.	0.	0.46	-0.9102	0.	0.	0.	1263	122
45600.508	-0.14600	0.	0.599531	0.	0.	0.00295	0.	0.000817	0.	0.	0.74	-0.3489	0.	0.	0.	1243	122
45606.367	0.14712	0.	0.603083	0.	0.	0.00773	0.	0.000669	0.	0.	0.51	-0.8413	0.	0.	0.	1263	122
45607.461	-0.2210	0.	0.587755	0.	0.	0.00345	0.	0.000834	0.	0.	0.40	-0.5809	0.	0.	0.	1243	122
45613.352	0.13550	0.	0.587787	0.	0.	0.00918	0.	0.000959	0.	0.	0.65	-0.8848	0.	0.	0.	1263	122
45614.578	-0.10470	0.	0.570747	0.	0.	0.00258	0.	0.000796	0.	0.	0.59	0.0509	0.	0.	0.	1243	122
45615.793	-0.19188	0.	0.581477	0.	0.	0.01022	0.	0.001455	0.	0.	0.69	-0.6587	0.	0.	0.	6343	120
45620.359	0.13659	0.	0.571425	0.	0.	0.00847	0.	0.000693	0.	0.	0.57	-0.8489	0.	0.	0.	1263	122
45621.301	-0.09357	0.	0.560582	0.	0.	0.00544	0.	0.001051	0.	0.	0.36	-0.8179	0.	0.	0.	1243	122
45627.352	-0.12819	0.	0.557387	0.	0.	0.01040	0.	0.000964	0.	0.	0.34	-0.8610	0.	0.	0.	1263	122
45628.547	-0.06266	0.	0.546451	0.	0.	0.00216	0.	0.000661	0.	0.	0.39	0.0023	0.	0.	0.	1243	122
45634.344	-0.08114	0.	0.543923	0.	0.	0.00753	0.	0.000651	0.	0.	0.52	-0.8710	0.	0.	0.	1263	122
45635.531	-0.04559	0.	0.533679	0.	0.	0.00205	0.	0.000751	0.	0.	0.42	-0.0332	0.	0.	0.	1243	122
45642.359	0.06901	0.	0.520308	0.	0.	0.00775	0.	0.000575	0.	0.	0.37	-0.8161	0.	0.	0.	1263	120
45643.449	-0.03645	0.	0.514721	0.	0.	0.00135	0.	0.000427	0.	0.	0.42	-0.3788	0.	0.	0.	1243	120
45650.160	0.01093	0.	0.504598	0.	0.	0.00613	0.	0.000520	0.	0.	0.37	-0.8368	0.	0.	0.	1263	120
45651.469	-0.02326	0.	0.498534	0.	0.	0.00173	0.	0.000393	0.	0.	0.28	-0.2629	0.	0.	0.	1243	120
45656.453	-0.02208	0.	0.487206	0.	0.	0.00041	0.	0.000160	0.	0.	0.34	-0.2645	0.	0.	0.	1243	220
45657.422	0.00003	0.	0.485334	0.	0.	0.00094	0.	0.000083	0.	0.	0.31	-0.8					

45°/4]	.598	-0.30508	0.	0.331526	0.	0.	0.00068	0.	0.	0.000059	0.	0.	0.	0.32	-0.8390	0.	0.	0.	1263	220
45742.211	-0.15188	0.	0.348886	0.	0.	0.00204	0.	0.	0.000490	0.	0.	0.	0.36	-0.4729	0.	0.	0.	1243	120	
45742.594	-0.15503	0.	0.347849	0.	0.	0.00027	0.	0.	0.000098	0.	0.	0.	0.23	-0.1727	0.	0.	0.	1243	220	
45749.102	-0.31702	0.	0.318660	0.	0.	0.00876	0.	0.000732	0.	0.	0.50	-0.8538	0.	0.	0.	0.	1263	120		
45749.301	-0.16988	0.	0.336657	0.	0.	0.00143	0.	0.000452	0.	0.	0.30	-0.1456	0.	0.	0.	0.	1243	120		
45756.109	-0.34599	0.	0.305834	0.	0.	0.00639	0.	0.000643	0.	0.	0.19	-0.8279	0.	0.	0.	0.	1263	120		
45763.168	-0.36721	0.	0.296600	0.	0.	0.00753	0.	0.000755	0.	0.	0.34	-0.8689	0.	0.	0.	0.	1263	120		
45770.082	-0.37995	0.	0.282768	0.	0.	0.00624	0.	0.000594	0.	0.	0.67	-0.8488	0.	0.	0.	0.	1263	120		
45770.230	-0.25615	0.	0.300700	0.	0.	0.00286	0.	0.000884	0.	0.	0.65	0.3604	0.	0.	0.	0.	1243	120		
45770.395	0.13264	0.	0.303416	0.	0.	0.00629	0.	0.001715	0.	0.	0.95	-0.3385	0.	0.	0.	0.	6343	120		
45777.090	-0.38860	0.	0.268088	0.	0.	0.00719	0.	0.000534	0.	0.	0.24	-0.8679	0.	0.	0.	0.	1263	120		
45777.238	-0.28375	0.	0.289299	0.	0.	0.00240	0.	0.000751	0.	0.	0.51	0.3479	0.	0.	0.	0.	1243	120		
45783.422	-0.38981	0.	0.254015	0.	0.	0.00614	0.	0.000623	0.	0.	0.20	-0.7557	0.	0.	0.	0.	1263	120		
45783.957	-0.39449	0.	0.253641	0.	0.	0.00093	0.	0.000091	0.	0.	0.38	-0.8661	0.	0.	0.	0.	1263	220		
45'84.484	-0.31257	0.	0.272265	0.	0.	0.00166	0.	0.000592	0.	0.	0.40	-0.1034	0.	0.	0.	0.	1243	120		
45784.914	-0.31365	0.	0.272165	0.	0.	0.00022	0.	0.000086	0.	0.	0.30	-0.1878	0.	0.	0.	0.	1243	220		
45791.262	-0.33683	0.	0.260193	0.	0.	0.00101	0.	0.000339	0.	0.	0.33	-0.0799	0.	0.	0.	0.	1243	120		
45798.223	-0.36570	0.	0.245970	0.	0.	0.00114	0.	0.000380	0.	0.	0.54	-0.3328	0.	0.	0.	0.	1243	120		
45799.930	-0.38856	0.	0.224124	0.	0.	0.00550	0.	0.000446	0.	0.	0.44	-0.8693	0.	0.	0.	0.	1263	120		
45800.090	-0.37580	0.	0.242528	0.	0.	0.00127	0.	0.000421	0.	0.	0.24	-0.1500	0.	0.	0.	0.	1243	120		
45801.926	-0.39155	0.	0.221180	0.	0.	0.00560	0.	0.000423	0.	0.	0.43	-0.8635	0.	0.	0.	0.	1263	120		
45802.090	-0.38424	0.	0.239564	0.	0.	0.00119	0.	0.000406	0.	0.	0.23	-0.0831	0.	0.	0.	0.	1243	120		
45803.938	-0.38557	0.	0.215675	0.	0.	0.00798	0.	0.000625	0.	0.	0.39	-0.8588	0.	0.	0.	0.	1263	120		
45804.094	-0.39155	0.	0.234530	0.	0.	0.00134	0.	0.000479	0.	0.	0.37	-0.0045	0.	0.	0.	0.	1243	120		
45805.938	-0.38121	0.	0.209304	0.	0.	0.00759	0.	0.000580	0.	0.	0.36	-0.8319	0.	0.	0.	0.	1263	120		
45806.094	-0.40333	0.	0.228911	0.	0.	0.00130	0.	0.000467	0.	0.	0.47	0.0502	0.	0.	0.	0.	1243	120		
45807.926	-0.46981	0.	0.212093	0.	0.	0.02357	0.	0.001666	0.	0.	0.34	-0.6804	0.	0.	0.	0.	1263	120		
45810.098	-0.40921	0.	0.221375	0.	0.	0.00250	0.	0.000734	0.	0.	0.43	0.5467	0.	0.	0.	0.	1243	120		
45811.926	-0.38156	0.	0.198811	0.	0.	0.00555	0.	0.000406	0.	0.	0.27	-0.8405	0.	0.	0.	0.	1263	120		
45812.102	-0.42276	0.	0.216048	0.	0.	0.00196	0.	0.000690	0.	0.	0.29	0.2989	0.	0.	0.	0.	1243	120		
45819.035	-0.37166	0.	0.185349	0.	0.	0.02229	0.	0.001381	0.	0.	0.24	-0.6205	0.	0.	0.	0.	1263	120		
45819.145	-0.44904	0.	0.200817	0.	0.	0.00148	0.	0.000514	0.	0.	0.29	-0.0147	0.	0.	0.	0.	1243	120		
45825.883	-0.47111	0.	0.187192	0.	0.	0.00147	0.	0.000481	0.	0.	0.35	-0.5272	0.	0.	0.	0.	1243	120		
45832.063	-0.37483	0.	0.164141	0.	0.	0.00846	0.	0.000945	0.	0.	0.31	-0.9215	0.	0.	0.	0.	1263	120		
45832.500	-0.35088	0.	0.160801	0.	0.	0.00105	0.	0.000093	0.	0.	0.27	-0.8564	0.	0.	0.	0.	1263	220		
45833.156	-0.49815	0.	0.172962	0.	0.	0.00137	0.	0.000399	0.	0.	0.37	-0.3182	0.	0.	0.	0.	1243	120		
45833.172	-0.49524	0.	0.172554	0.	0.	0.00075	0.	0.000324	0.	0.	0.18	-0.3337	0.	0.	0.	0.	1243	220		
45839.938	-0.33293	0.	0.147575	0.	0.	0.00738	0.	0.000722	0.	0.	0.60	-0.8794	0.	0.	0.	0.	1263	120		
45840.098	-0.51104	0.	0.160381	0.	0.	0.00122	0.	0.000352	0.	0.	0.29	-0.1606	0.	0.	0.	0.	1243	120		
45847.078	-0.52527	0.	0.148467	0.	0.	0.00134	0.	0.000387	0.	0.	0.27	-0.3141	0.	0.	0.	0.	1243	120		
45854.004	-0.28371	0.	0.129793	0.	0.	0.00522	0.	0.000569	0.	0.	0.33	-0.8502	0.	0.	0.	0.	1263	120		
45854.527	-0.54018	0.	0.137645	0.	0.	0.00112	0.	0.000363	0.	0.	0.38	0.1286	0.	0.	0.	0.	1243	120		
45861.273	-0.54544	0.	0.126320	0.	0.	0.00146	0.	0.000511	0.	0.	0.35	-0.2609	0.	0.	0.	0.	1243	120		
45861.668	-0.23494	0.	0.16687	0.	0.	0.00617	0.	0.000511	0.	0.	0.75	-0.8865	0.	0.	0.	0.	1263	120		
45866.555	-0.55033	0.	0.119981	0.	0.	0.00125	0.	0.000365	0.	0.	0.18	-0.1949	0.	0.	0.	0.	1243	120		
45874.852	-0.19790	0.	0.104798	0.	0.	0.00807	0.	0.000893	0.	0.	0.42	-0.8925	0.	0.	0.	0.	1263	120		
45875.309	-0.55697	0.	0.107725	0.	0.	0.00124	0.	0.000477	0.	0.	0.27	0.2019	0.	0.	0.	0.	1243	120		
45888.961	-0.13888	0.	0.093016	0.	0.	0.00812	0.	0.000916	0.	0.	0.27	-0.8686	0.	0.	0.	0.	1263	120		
45889.566	-0.54908	0.	0.090759	0.	0.	0.00339	0.	0.000673	0.	0.	0.44	-0.833	0.	0.	0.	0.	1243	120		
45895.117	-0.12671	0.	0.091773	0.	0.	0.00445	0.	0.000457	0.	0.	0.49	-0.8448	0.	0.	0.	0.	1263	120		
45895.613	-0.11904	0.	0.091264	0.	0.	0.00120	0.	0.000117	0.	0.	0.35	-0.8560	0.	0.	0.	0.	1263	220		
45896.602	-0.54516	0.	0.086933	0.	0.	0.00037	0.	0.000145	0.	0.	0.35	-0.1158	0.	0.	0.	0.	1243	220		
45903.566	-0.52920	0.	0.077925	0.	0.	0.00343	0.	0.000718	0.	0.	0.30	-0.7341	0.	0.	0.	0.	1243	120		
45910.742	-0.04848	0.	0.081190	0.	0.	0.00772	0.	0.000776	0.	0.	0.40	-0.9031	0.	0.	0.	0.	1263	120		
45916.961	-0.01680	0.	0.071430	0.	0.	0.00769	0.	0.000926	0.	0.	0.20	-0.8739	0.	0.	0.	0.	1263	120		
45924.277	0.01008	0.	0.067102	0.	0.	0.00580	0.	0.000522	0.	0.	0.68	-0.8803	0.	0.	0.	0.	1263	120		
45934.449	0.05074	0.	0.053845	0.	0.	0.00681	0.	0.000628	0.	0.	0.23	-0.8728	0.	0.	0.	0.	1263	120		
45937.539	0.04782	0.	0.052192	0.	0.	0.00535	0.	0.000508	0.	0.	0.34	-0.8696	0.	0.	0.	0.	1263	120		
45952.637	0.39682	0.	0.040734	0.	0.	0.00830	0.	0.001748	0.	0.	0.29	0.2873	0.	0.	0.	0.	4263	120		
45965.813	0.38586	0.	0.019874	0.	0.	0.00828	0.	0.001056	0.	0.	0.48	0.5908	0.	0.	0.	0.	4263	120		
46008.434	0.14933	0.	-0.066798	0.	0.	0.00657	0.	0.000428	0.	0.	0.59	-0.8063	0.	0.	0.	0.	1463	120		
46033.488	-0.11692	0.	-0.118962	0.	0.	0.00257	0.	0.000755	0.	0.	0.80	-0.1465	0.	0.	0.	0.	1442	120		
46036.367	-0.10339	0.	-0.116041	0.	0.	0.01979	0.	0.001070	0.	0.	0.68	-0.7136	0.	0.	0.	0.	1463	120		
46043.77	-0.10263	0.	-0.125379	0.	0.	0.00598	0.	0.000535	0.	0.	0.33	-0.8840	0.	0.	0.	0.	1463	120		
46078.480	-0.02213	0.	-0.179797	0.	0.	0.00342	0.	0.000744	0.	0.	0.65	-0.0054	0.	0.	0.	0.	1442	120		
46078.645	-0.01941	0.	-0.180166	0.	0.	0.00607	0.	0.000393	0.	0.	0.17	-0.8555	0.	0.	0.	0.	1463	12(1)		
46091																				

46490.38''	-0.11872	0.	0.224569	0.	0.	0.00094	0.	0.000498	0.	0.	0.16	0.2166	0.	0.	0.	1443	120
46490.984	-0.03124	0.	0.224804	0.	0.	0.00479	0.	0.000344	0.	0.	0.51	-0.7867	0.	0.	0.	1463	120
46497.414	-0.11720	0.	0.218460	0.	0.	0.00087	0.	0.000345	0.	0.	0.28	-0.0481	0.	0.	0.	1443	12.0
46498.027	-0.03732	0.	0.215876	0.	0.	0.00526	0.	0.000230	0.	0.	0.38	-0.8551	0.	0.	0.	1463	120
46504.984	-0.06989	0.	0.206146	0.	0.	0.00456	0.	0.000207	0.	0.	0.35	-0.8584	0.	0.	0.	1463	120
46511.992	-0.07972	0.	0.200947	0.	0.	0.00659	0.	0.000289	0.	0.	0.51	-0.8165	0.	0.	0.	1463	120
46512.324	-0.11305	0.	0.203315	0.	0.	0.00078	0.	0.000264	0.	0.	0.26	-0.3155	0.	0.	0.	1443	120
46518.402	-0.11819	0.	0.192759	0.	0.	0.00075	0.	0.000300	0.	0.	0.19	0.1802	0.	0.	0.	1443	120
46519.039	-0.10274	0.	0.187359	0.	0.	0.00359	0.	0.000203	0.	0.	0.46	-0.8307	0.	0.	0.	1463	120
46525.367	-0.12337	0.	0.184214	0.	0.	0.00072	0.	0.000301	0.	0.	0.53	0.0956	0.	0.	0.	1443	120
46526.059	-0.13354	0.	0.178384	0.	0.	0.00923	0.	0.000543	0.	0.	0.96	-0.8061	0.	0.	0.	)463	120
46532.285	-0.13511	0.	0.172693	0.	0.	0.00079	0.	0.000271	0.	0.	0.27	-0.2410	0.	0.	0.	1443	120
46534.078	-0.13768	0.	0.163954	0.	0.	0.00481	0.	0.000218	0.	0.	0.49	-0.8681	0.	0.	0.	1463	120
46539.531	-0.14571	0.	0.163843	0.	0.	0.00092	0.	0.000394	0.	0.	0.61	0.3097	0.	0.	0.	1443	120
46540.523	-0.16229	0.	0.155884	0.	0.	0.00642	0.	0.000410	0.	0.	0.22	-0.8830	0.	0.	0.	1463	120
46546.277	-0.15510	0.	0.150881	0.	0.	0.00110	0.	0.000429	0.	0.	0.22	-0.0998	0.	0.	0.	1443	120
46547.168	-0.15864	0.	0.141785	0.	0.	0.00487	0.	0.000266	0.	0.	0.49	-0.8901	0.	0.	0.	1463	120
46553.383	-0.16976	0.	0.141046	0.	0.	0.00080	0.	0.000397	0.	0.	0.36	0.030	0.	0.	0.	1443	120
46554.504	-0.19955	0.	0.131708	0.	0.	0.00795	0.	0.000596	0.	0.	0.60	-0.9002	0.	0.	0.	1463	120
46560.445	-0.17991	0.	0.128372	0.	0.	0.00079	0.	0.000300	0.	0.	0.20	0.4129	0.	0.	0.	1443	120
46596.984	-0.23475	0.	0.085748	0.	0.	0.00450	0.	0.000230	0.	0.	0.58	-0.9036	0.	0.	0.	1463	120
46597.238	-0.25431	0.	0.095497	0.	0.	0.00100	0.	0.000428	0.	0.	0.53	0.0861	0.	0.	0.	)443	120
46603.328	-0.26791	0.	0.088791	0.	0.	0.00101	0.	0.000416	0.	0.	0.93	0.2904	0.	0.	0.	1443	1'20
46603.984	-0.22072	0.	0.078802	0.	0.	0.00650	0.	0.000350	0.	0.	0.43	-0.9268	0.	0.	0.	1463	120
46609.289	-0.23045	0.	0.075571	0.	0.	0.00731	0.	0.000598	0.	0.	1.22	-0.7942	0.	0.	0.	1463	120
46609.781	-0.22236	0.	0.073666	0.	0.	0.00255	0.	0.000161	0.	0.	0.61	-0.8749	0.	0.	0.	1463	220
46610.867	-0.28731	0.	0.081988	0.	0.	0.00039	0.	0.000136	0.	0.	0.37	0.1192	0.	0.	0.	1443	220
46618.309	-0.30408	0.	0.077942	0.	0.	0.00133	0.	0.000489	0.	0.	0.44	0.2971	0.	0.	0.	1443	120
46619.141	-0.22345	0.	0.068717	0.	0.	0.00426	0.	0.000304	0.	0.	0.62	-0.8659	0.	0.	0.	1463	120
46624.293	-0.31644	0.	0.073823	0.	0.	0.00136	0.	0.000453	0.	0.	0.33	0.0197	0.	0.	0.	1443	120
46625.000	-0.23122	0.	0.064378	0.	0.	0.00311	0.	0.000168	0.	0.	0.53	-0.8597	0.	0.	0.	1463	120
46631.574	-0.33180	0.	0.068410	0.	0.	0.00155	0.	0.000385	0.	0.	0.42	-0.5848	0.	0.	0.	1443	120
46631.785	-0.21490	0.	0.059930	0.	0.	0.00363	0.	0.000186	0.	0.	1.25	-0.8353	0.	0.	0.	1463	120
46637.242	-0.34009	0.	0.062794	0.	0.	0.00079	0.	0.000352	0.	0.	0.28	0.3839	0.	0.	0.	1443	120
46644.223	-0.34976	0.	0.058878	0.	0.	0.00074	0.	0.000330	0.	0.	0.33	0.3611	0.	0.	0.	1443	120
46653.184	-0.20468	0.	0.045906	0.	0.	0.00787	0.	0.000533	0.	0.	0.37	-0.9387	0.	0.	0.	1461	120
46653.379	-0.36397	0.	0.051763	0.	0.	0.00096	0.	0.000305	0.	0.	0.41	0.4290	0.	0.	0.	1443	120
46658.438	-0.36674	0.	0.048331	0.	0.	0.00083	0.	0.000237	0.	0.	0.41	-0.0458	0.	0.	0.	1443	120
46658.918	-0.36860	0.	0.048241	0.	0.	0.00032	0.	0.000107	0.	0.	0.34	0.3125	0.	0.	0.	1443	220
46659.922	-0.20049	0.	0.042052	0.	0.	0.00443	0.	0.000225	0.	0.	0.60	-0.8686	0.	0.	0.	1461	120
46672.215	-0.38813	0.	0.037472	0.	0.	0.00176	0.	0.000695	0.	0.	0.44	-0.0180	0.	0.	0.	1443	120
46687.020	-0.39409	0.	0.021653	0.	0.	0.00071	0.	0.000329	0.	0.	0.18	0.2523	0.	0.	0.	1443	120
46693.355	-0.16208	0.	0.008982	0.	0.	0.00485	0.	0.000403	0.	0.	0.37	-0.9125	0.	0.	0.	1461	120
46695.238	-0.39441	0.	0.008433	0.	0.	0.00083	0.	0.000285	0.	0.	0.25	0.5120	0.	0.	0.	1443	120
46701.941	-0.39424	0.	0.000967	0.	0.	0.00060	0.	0.000331	0.	0.	0.18	0.0813	0.	0.	0.	1443	120
46707.039	-0.15007	0.	-0.010470	0.	0.	0.00857	0.	0.000696	0.	0.	0.09	-0.9039	0.	0.	0.	1461	120
46708.746	-0.39777	0.	-0.012849	0.	0.	0.00066	0.	0.000237	0.	0.	0.22	-0.3193	0.	0.	0.	1443	120
46709.203	-0.39753	0.	-0.013729	0.	0.	0.00019	0.	0.000070	0.	0.	0.25	0.0225	0.	0.	0.	1443	220
46714.293	-0.13234	0.	-0.022913	0.	0.	0.00433	0.	0.000362	0.	0.	0.44	-0.9015	0.	0.	0.	)461	120
46715.191	-0.39608	0.	-0.022533	0.	0.	0.00088	0.	0.000285	0.	0.	0.16	0.5373	0.	0.	0.	1443	120
46727.208	-0.12580	0.	-0.036312	0.	0.	0.00576	0.	0.000487	0.	0.	0.22	-0.9202	0.	0.	0.	1461	120
46729.012	-0.12430	0.	-0.045116	0.	0.	0.00586	0.	0.000421	0.	0.	0.73	-0.9255	0.	0.	0.	1461	120
46736.953	-0.11200	0.	-0.059824	0.	0.	0.00703	0.	0.000426	0.	0.	0.30	-0.9664	0.	0.	0.	1461	120
46743.000	-0.10632	0.	-0.066008	0.	0.	0.00567	0.	0.000447	0.	0.	0.58	-0.9199	0.	0.	0.	1461	120
46751.078	-0.08357	0.	-0.079759	0.	0.	0.00472	0.	0.000442	0.	0.	0.42	-0.9064	0.	0.	0.	1461	120
46757.227	-0.38061	0.	-0.087991	0.	0.	0.00026	0.	0.000095	0.	0.	0.27	0.2675	0.	0.	0.	1443	220
46760.078	-0.07622	0.	-0.089845	0.	0.	0.00558	0.	0.000454	0.	0.	0.15	-0.9188	0.	0.	0.	)461	120
46763.750	-0.37368	0.	-0.099933	0.	0.	0.00067	0.	0.000335	0.	0.	0.36	-0.0115	0.	0.	0.	)443	120
46763.969	-0.07365	0.	-0.096936	0.	0.	0.00559	0.	0.000477	0.	0.	0.44	-0.9139	0.	0.	0.	1461	120
46778.164	-0.35567	0.	-0.120727	0.	0.	0.00065	0.	0.000248	0.	0.	0.31	-0.4631	0.	0.	0.	1443	120
46778.828	-0.03670	0.	-0.116808	0.	0.	0.00661	0.	0.000387	0.	0.	0.31	-0.9717	0.	0.	0.	1461	120
46784.730	-0.35305	0.	-0.125462	0.	0.	0.00229	0.	0.000671	0.	0.	0.70	0.4890	0.	0.	0.	1443	120
46785.965	-0.03928	0.	-0.121897	0.	0.	0.00562	0.	0.000435	0.	0.	0.35	-0.9349	0.	0.	0.	1461	120
46791.117	-0.04268	0.	-0.130407	0.	0.	0.00570	0.	0.000573	0.	0.	0.20	-0.9163	0.	0.	0.	1461	120
46798.324	-0.33807	0.	-0.144139	0.	0.	0.00099	0.	0.000550	0.	0.	0.46	-0.0128	0.	0.	0.	1443	12?
46799.086	-0.03370	0.	-0.141367	0.	0.	0.00469	0.	0.000412	0.	0.	0.26	-0.9172	0.	0.	0.	1461	12.0
46804.992	-0.02631	0.	-0.151457	0.	0.	0.00481	0.	0.000458	0.	0.	0.40	-0.9071	0.	0.	0.	1461	120
46814.285	-0.31363	0.	-0.163773	0.	0.	0.00079	0.	0.000356	0.	0.	0.33	0.1580	0.	0.	0.	1443	120
46820.293	-0.02530	0.	-0.168259	0.	0.	0.00314	0.	0.000224	0.	0.	0.52	-0.7906	0.</td				

46937.727	-0.06216	0.	-0.356858	0.	0.	0.00409	0.	0.000374	0.	0.	0.32	-0.9066	0.	0.	0.	1461	120
46938.934	-0.20303	0.	-0.358318	0.	0.	0.00107	0.	0.000365	0.	0.	0.93	-0.1963	0.	0.	0.	1442	120
46945.930	-0.19856	0.	-0.365596	0.	0.	0.00086	0.	0.000330	0.	0.	0.19	-0.0355	0.	0.	0.	1442	120
46946.086	-0.07712	0.	-0.367204	0.	0.	0.00299	0.	0.000199	0.	0.	0.21	-0.7347	0.	0.	0.	1461	120
46953.328	-0.19801	0.	-0.373613	0.	0.	0.00104	0.	0.000406	0.	0.	0.45	-0.3080	0.	0.	0.	1442	120
46967.414	-0.19663	0.	-0.389620	0.	0.	0.00094	0.	0.000361	0.	0.	0.44	-0.2784	0.	0.	0.	1442	120
46973.742	-0.10733	0.	-0.393834	0.	0.	0.00730	0.	0.000751	0.	0.	1.26	-0.8110	0.	0.	0.	1461	120
46974.816	-0.19524	0.	-0.393346	0.	0.	0.00212	0.	0.000639	0.	0.	0.55	-0.3275	0.	0.	0.	1442	120
46980.074	-0.19814	0.	-0.396057	0.	0.	0.00117	0.	0.000355	0.	0.	0.37	-0.1108	0.	0.	0.	1442	120
46981.047	-0.11384	0.	-0.400674	0.	0.	0.00346	0.	0.000228	0.	0.	0.29	-0.8320	0.	0.	0.	146)	120
46987.332	-0.19936	0.	-0.400145	0.	0.	0.00095	0.	0.000334	0.	0.	0.29	-0.3162	0.	0.	0.	1442	120
46995.125	-0.12960	0.	-0.411257	0.	0.	0.00439	0.	0.000276	0.	0.	0,17	-0.9049	0.	0.	0.	1461	120
46995.324	-0.20259	0.	-0.407264	0.	0.	0.00091	0.	0.000360	0.	0.	0.34	-0.3244	0.	0.	0.	1442	120
47003.082	-0.21043	0.	-0.407126	0.	0.	0.00093	0.	0.000389	0.	0.	0.47	-0.2958	0.	0.	0.	1442	120
47008.965	-0.13980	0.	-0.416862	0.	0.	0.00349	0.	0.000220	0.	0.	0.43	-0.8215	0.	0.	0.	1461	120
47009.391	-0.20973	0.	-0.411183	0.	0.	0.00153	0.	0.000463	0.	0.	0.69	0.6318	0.	0.	0.	1442	120
47016.004	-0.14552	0.	-0.419218	0.	0.	0.00540	0.	0.000201	0.	0.	1.04	-0.8743	0.	0.	0.	1463	120
47022.457	-0.22094	0.	-0.420787	0.	0.	0.00129	0.	0.000406	0.	0.	0.35	-0.2654	0.	0.	0.	1442	120
47023.824	-0.14325	0.	-0.427631	0.	0.	0.00386	0.	0.000211	0.	0.	0.21	-0.8742	0.	0.	0.	1463	120
47024.250	-0.15514	0.	-0.427458	0.	0.	0.00072	0.	0.000045	0.	0.	0.25	-0.8660	0.	0.	0.	1463	220
47029.371	-0.22823	0.	-0.423795	0.	0.	0.00085	0.	0.000252	0.	0.	0.23	0.3376	0.	0.	0.	1442	120
47031.145	-0.15081	0.	-0.431569	0.	0.	0.00501	0.	0.000335	0.	0.	0.26	-0.9105	0.	0.	0.	1463	120
47036.961	-0.16371	0.	-0.439184	0.	0.	0.00383	0.	0.000237	0.	0.	0.72	-0.8545	0.	0.	0.	1463	120
47037.1438	-0.24043	0.	-0.433704	0.	0.	0.00146	0.	0.000446	0.	0.	0.76	-0.6028	0.	0.	0.	1442	120
47045.270	-0.24598	0.	-0.443335	0.	0.	0.00264	0.	0.001057	0.	0.	0.13	0.1848	0.	0.	0.	1442	120
47050.783	-0.24889	0.	-0.450112	0.	0.	0.00097	0.	0.000319	0.	0.	0.19	-0.1088	0.	0.	0.	1442	120
47051.957	-0.17362	0.	-0.458103	0.	0.	0.00326	0.	0.000194	0.	0.	0.23	-0.9271	0.	0.	0.	1463	120
47057.871	-0.)8207	0.	-0.463433	0.	0.	0.00954	0.	0.000332	0.	0.	0.35	-0.8059	0.	0.	0.	1463	120
47058.793	-0.25486	0.	-0.457929	0.	0.	0.00095	0.	0.000321	0.	0.	0.28	-0.1974	0.	0.	0.	1442	120
47064.855	-0.19326	0.	-0.475816	0.	0.	0.00280	0.	0.000123	0.	0.	0.12	-0.8956	0.	0.	0.	1463	)20
47071.625	-0.27000	0.	-0.476824	0.	0.	0.00161	0.	0.000617	0.	0.	0.43	-0.2504	0.	0.	0.	1542	120
47072.496	-0.20146	0.	-0.486334	0.	0.	0.00445	0.	0.000263	0.	0.	0.30	-0.8728	0.	0.	0.	1563	120
47078.496	-0.20484	0.	-0.499069	0.	0.	0.00427	0.	0.000269	0.	0.	0.27	-0.8785	0.	0.	0.	1563	120
47080.688	-0.28309	0.	-0.493764	0.	0.	0.00110	0.	0.000429	0.	0.	0.22	-0.0674	0.	0.	0.	1542	120
47086.309	-0.20983	0.	-0.509196	0.	0.	0.00325	0.	0.000267	0.	0.	0.23	-0.8470	0.	0.	0.	1563	120
47086.504	-0.28843	0.	-0.500784	0.	0.	0.00172	0.	0.000698	0.	0.	0.69	-0.5507	0.	0.	0.	1542	120
47088.527	-0.29048	0.	-0.504332	0.	0.	0.00207	0.	0.000759	0.	0.	0.42	-0.3109	0.	0.	0.	1542	120
47092.547	-0.23027	0.	-0.519380	0.	0.	0.00752	0.	0.000784	0.	0.	0.23	-0.9590	0.	0.	0.	1563	120
47098.125	-0.21669	0.	-0.528517	0.	0.	0.00373	0.	0.000205	0.	0.	0.34	-0.83)9	0.	0.	0.	1563	120
47106.539	-0.22093	0.	-0.545294	0.	0.	0.00405	0.	0.000274	0.	0.	0.38	-0.8536	0.	0.	0.	1563	120
47107.156	-0.22636	0.	-0.545651	0.	0.	0.00121	0.	0.000080	0.	0.	0.24	-0.8441	0.	0.	0.	1563	220
47107.918	-0.31005	0.	-0.538085	0.	0.	0.00291	0.	0.000723	0.	0.	0.81	0.5275	0.	0.	0.	1543	120
47114.875	-0.32748	0.	-0.548919	0.	0.	0.00085	0.	0.000337	0.	0.	0.20	0.2330	0.	0.	0.	1543	120
47119.125	-0.22942	0.	-0.566189	0.	0.	0.00383	0.	0.000251	0.	0.	0.08	-0.8902	0.	0.	0.	1563	120
47330.465	-0.34449	0.	-0.575180	0.	0.	0.00248	0.	0.000794	0.	0.	0.23	0.7362	0.	0.	0.	1543	120
47134.840	-0.35386	0.	-0.583937	0.	0.	0.00107	0.	0.000404	0.	0.	0.21	0.3511	0.	0.	0.	1543	320
47135.129	-0.24755	0.	-0.592767	0.	0.	0.00375	0.	0.000241	0.	0.	0.15	-0.9041	0.	0.	0.	1563	120
47150.410	-0.37717	0.	-0.606646	0.	0.	0.00096	0.	0.000386	0.	0.	0.20	0.5688	0.	0.	0.	1543	120
47155.531	-0.38252	0.	-0.616178	0.	0.	0.00023	0.	0.000098	0.	0.	0.27	0.0115	0.	0.	0.	1543	220
47156.113	-0.23464	0.	-0.625783	0.	0.	0.00277	0.	0.000181	0.	0.	0.23	-0.854)	0.	0.	0.	1563	120
47157.016	-0.38519	0.	-0.619340	0.	0.	0.00035	0.	0.000125	0.	0.	0.30	-0.0634	0.	0.	0.	1543	220
47162.809	-0.23582	0.	-0.363678	0.	0.	0.00557	0.	0.000377	0.	0.	0.26	-0.7247	0.	0.	0.	1563	120
47163.352	-0.39387	0.	-0.370062	0.	0.	0.00101	0.	0.000347	0.	0.	0.23	0.3490	0.	0.	0.	1543	120
47169.457	-0.40135	0.	-0.361094	0.	0.	0.00055	0.	0.000200	0.	0.	0.26	0.0437	0.	0.	0.	1543	120
47170.121	-0.22272	0.	-0.353380	0.	0.	0.00212	0.	0.000124	0.	0.	0.16	-0.8881	0.	0.	0.	1563	120
47177.750	-0.21782	0.	-0.341852	0.	0.	0.00905	0.	0.000456	0.	0.	0.97	-0.8981	0.	0.	0.	1563	120
47184.070	-0.20691	0.	-0.331644	0.	0.	0.00194	0.	0.000121	0.	0.	0.27	-0.8784	0.	0.	0.	1563	120
47185.582	-0.41528	0.	-0.334561	0.	0.	0.00059	0.	0.000266	0.	0.	0.15	0.4827	0.	0.	0.	1543	120
47189.305	-0.42065	0.	-0.330516	0.	0.	0.00150	0.	0.000540	0.	0.	0.43	0.8427	0.	0.	0.	)543	120
47189.918	-0.19197	0.	-0.325111	0.	0.	0.00300	0.	0.000166	0.	0.	0.53	-0.8826	0.	0.	0.	1563	120
47198.094	-0.18271	0.	-0.315670	0.	0.	0.00768	0.	0.000787	0.	0.	1.06	-0.7281	0.	0.	0.	1563	120
47203.125	-0.17076	0.	-0.305683	0.	0.	0.00361	0.	0.000203	0.	0.	0.31	-0.9054	0.	0.	0.	1563	120
47204.367	-0.43407	0.	-0.307064	0.	0.	0.00047	0.	0.000169	0.	0.	0.17	--0.0548	0.	0.	0.	1543	120
47204.625	-0.43327	0.	-0.306452	0.	0.	0.00028	0.	0.00017	0.	0.	0.16	0.1003	0.	0.	0.	1543	220
47206.051	-0.43184	0.	-0.304900	0.	0.	0.00028	0.	0.000095	0.	0.	0.33	0.0272	0.	0.	0.	1543	220
47210.125	-0.16597	0.	-0.29287)	0.	0.	0.00336	0.	0.000196	0.	0.	0.16	--0.8740	0.	0.	0.	1563	120
47211.672	-0.43365	0.	-0.291381	0.	0.	0.00084	0.	0.000314	0.	0.	0.21	-0.2345	0.	0.	0.	1543	120
47218.535	-0.43242	0.	0.2'8427	0.	0.	0.00067	0.	0.000292	0.	0.	0.22	0.2442	0.	0.	0.	1543	120
47218.977	-0.16575	0.	-0.276107	0.	0.	0.00239	0.	0.000150	0.	0.	0.16	-0.8577	0.				

47295.293	-0.37902	0.	0.134212	0.	0.	0.00029	0.	0.	0.000093	0.	0.	0.16	0.2724	0.	0.	0.	1543	220
47301.477	-0.01797	0.	0.132117	0.	0.	0.00150	0.	0.	0.000137	0.	0.	0.15	-0.8453	0.	0.	0.	1563	220
47302.285	-0.37009	0.	0.124980	0.	0.	0.00357	0.	0.	0.000918	0.	0.	0.55	0.4167	0.	0.	0.	1543	120
47303.883	-0.01196	0.	0.129042	0.	0.	0.00334	0.	0.	0.000174	0.	0.	0.18	-0.9153	0.	0.	0.	1563	120
47307.863	-0.35700	0.	0.115758	0.	0.	0.00190	0.	0.	0.000582	0.	0.	0.49	'0.2204	0.	0.	0.	1543	120
47309.965	-0.00891	0.	0.118805	0.	0.	0.00249	0.	0.	0.000171	0.	0.	0.23	-0.8524	0.	0.	0.	1563	120
47323.902	--0.00597	0.	0.100883	0.	0.	0.00210	0.	0.	0.000122	0.	0.	0.05	-0.8423	0.	0.	0.	1463	120
47324.070	-0.3?..524	0.	0.094419	0.	0.	0.00056	0.	0.	0.000176	0.	0.	0.08	-0.1002	0.	0.	0.	1445	120
47330.543	-0.31485	0.	0.090687	0.	0.	0.00103	0.	0.	0.000472	0.	0.	0.52	0.2910	0.	0.	0.	1445	120
47330.727	-0.00090	0.	0.097218	0.	0.	0.00232	0.	0.	0.000114	0.	0.	0.23	-0.8873	0.	0.	0.	1463	120
47337.012	-0.29948	0.	0.085420	0.	0.	0.00074	0.	0.	0.000232	0.	0.	0.41	0.1295	0.	0.	0.	1445	120
47338.031	0.0108B	0.	0.091573	0.	0.	0.00300	0.	0.	0.000156	0.	0.	0.04	-0.8782	0.	0.	0.	1463	120
47358.820	-0.02653	0.	0.084182	0.	0.	0.00505	0.	0.	0.000576	0.	0.	0.13	-0.9420	0.	0.	0.	1463	120
47360.238	-0.25891	0.	0.076259	0.	0.	0.00128	0.	0.	0.000608	0.	0.	0.10	-0.0923	0.	0.	0.	1443	120
47365.938	0.03421	0.	0.078967	0.	0.	0.00232	0.	0.	0.000131	0.	0.	0.19	-0.9136	0.	0.	0.	1463	120
47367.086	-0.24200	0.	0.071066	0.	0.	0.00128	0.	0.	0.000423	0.	0.	0.24	0.7543	0.	0.	0.	1443	120
4"/372.973	0.02942	0.	0.075521	0.	0.	0.00215	0.	0.	0.000101	0.	0.	0.33	-0.9?..82	0.	0.	0.	1463	120
47379.719	0.03363	0.	0.069725	0.	0.	0.00214	0.	0.	0.000281	0.	0.	0.33	-0.8302	0.	0.	0.	1465	220
47380.441	0.02695	0.	0.069788	0.	0.	0.00351	0.	0.	0.000240	0.	0.	0.19	-0.8897	0.	0.	0.	1465	120
47381.180	0.02969	0.	0.070051	0.	0.	0.00155	0.	0.	0.000144	0.	0.	0.25	-0.7881	0.	0.	0.	1465	220
47386.090	-0.20198	0.	0.062269	0.	0.	0.00120	0.	0.	0.000372	0.	0.	0.66	0.2254	0.	0.	0.	1443	120
47386.266	-0.02022	0.	0.068390	0.	0.	0.00565	0.	0.	0.000315	0.	0.	0.53	'0.7993	0.	0.	0.	1465	120
47393.125	-0.19037	0.	0.057185	0.	0.	0.00066	0.	0.	0.000278	0.	0.	0.15	-0.0161	0.	0.	0.	1443	120
47393.594	-0.18802	0.	0.057060	0.	0.	0.00032	0.	0.	0.000128	0.	0.	0.09	0.2983	0.	0.	0.	1443	220
47400.047	-0.17667	0.	0.055426	0.	0.	0.00154	0.	0.	0.000515	0.	0.	0.56	0.4273	0.	0.	0.	1443	120
47400.223	0.00295	0.	0.061327	0.	0.	0.00943	0.	0.	0.001012	0.	0.	0.75	-0.6891	0.	0.	0.	1465	120
47406.820	-0.16430	0.	0.048732	0.	0.	0.00046	0.	0.	0.000169	0.	0.	0.15	-0.2637	0.	0.	0.	1443	120
47407.148	-0.16372	0.	0.048424	0.	0.	0.00033	0.	0.	0.000127	0.	0.	0.15	0.0612	0.	0.	0.	1443	220
47408.777	-0.00140	0.	0.051584	0.	0.	0.00362	0.	0.	0.000215	0.	0.	0.31	-0.9300	0.	0.	0.	1463	120
47409.242	0.00035	0.	0.05)?..294	0.	0.	0.00123	0.	0.	0.000088	0.	0.	0.22	-0.7818	0.	0.	0.	1465	220
47415.000	-0.15184	0.	0.043697	0.	0.	0.00222	0.	0.	0.000711	0.	0.	0.85	0.3964	0.	0.	0.	1443	120
47415.938	-0.00940	0.	0.046290	0.	0.	0.00288	0.	0.	0.000154	0.	0.	0.06	-0.9547	0.	0.	0.	1463	120
47421.711	-0.01975	0.	0.040832	0.	0.	0.00117	0.	0.	0.000062	0.	0.	0.27	-0.7849	0.	0.	0.	1463	220
47428.938	-0.13443	0.	0.032739	0.	0.	0.00311	0.	0.	0.000736	0.	0.	0.57	0.4906	0.	0.	0.	1443	120
47429.637	-0.04139	0.	0.031221	0.	0.	0.00330	0.	0.	0.000304	0.	0.	0.07	-0.9243	0.	0.	0.	1463	120
47435.758	-0.05632	0.	0.022330	0.	0.	0.00267	0.	0.	0.000145	0.	0.	0.22	-0.9408	0.	0.	0.	1463	120
47435.961	-0.12631	0.	0.023690	0.	0.	0.00066	0.	0.	0.000267	0.	0.	0.07	0.28/-4	0.	0.	0.	1443	120
47442.832	-0.08474	0.	0.014154	0.	0.	0.01495	0.	0.	0.000868	0.	0.	0.37	-0.9914	0.	0.	0.	1463	120
4"/443.930	-0.12260	0.	0.014242	0.	0.	0.00089	0.	0.	0.000329	0.	0.	0.45	0.3092	0.	0.	0.	1443	120
47457.875	-0.12173	0.	-0.005570	0.	0.	0.00061	0.	0.	0.000302	0.	0.	0.26	0.1358	0.	0.	0.	1443	120
47463.289	-0.12344	0.	-0.011407	0.	0.	0.00058	0.	0.	0.000244	0.	0.	0.12	-0.5952	0.	0.	0.	1443	120
4"-4-/1.199	-0.16661	0.	-0.032215	0.	0.	0.00399	0.	0.	0.000238	0.	0.	0.03	-0.9414	0.	0.	0.	1463	120
47471.844	-0.16941	0.	-0.033333	0.	0.	0.00094	0.	0.	0.000061	0.	0.	0.19	-0.9071	0.	0.	0.	1463	220
4"/472.266	-0.13286	0.	-0.025564	0.	0.	0.00091	0.	0.	0.000306	0.	0.	0.09	-0.3000	0.	0.	0.	1443	120
47477.781	-0.18947	0.	-0.042696	0.	0.	0.00347	0.	0.	0.000191	0.	0.	0.21	-0.9466	0.	0.	0.	1463	120
47484.488	-0.20515	0.	-0.055084	0.	0.	0.00185	0.	0.	0.000109	0.	0.	0.14	-0.8983	0.	0.	0.	1463	120
47485.918	-0.15500	0.	-0.046280	0.	0.	0.00127	0.	0.	0.000440	0.	0.	0.42	0.1170	0.	0.	0.	1443	120
47491.469	-0.16592	0.	-0.054866	0.	0.	0.00042	0.	0.	0.000240	0.	0.	0.12	0.3402	0.	0.	0.	1443	120
47499.906	-0.18438	0.	-0.068024	0.	0.	0.00052	0.	0.	0.000274	0.	0.	0.15	0.3520	0.	0.	0.	1443	120
4"1506.145	-0.26696	0.	-0.089228	0.	0.	0.00248	0.	0.	0.000120	0.	0.	0.29	-0.8378	0.	0.	0.	1463	120
47506.332	-0.20003	0.	-0.076155	0.	0.	0.00060	0.	0.	0.000344	0.	0.	0.23	-0.5418	0.	0.	0.	1443	120
47512.637	-0.28371	0.	-0.099191	0.	0.	0.00308	0.	0.	0.000157	0.	0.	0.26	-0.9503	0.	0.	0.	1463	120
47521.395	-0.24458	0.	-0.093822	0.	0.	0.00053	0.	0.	0.000254	0.	0.	0.17	0.2130	0.	0.	0.	1443	120
47526.086	-0.29753	0.	-0.114043	0.	0.	0.00372	0.	0.	0.000189	0.	0.	0.23	-0.9499	0.	0.	0.	1463	120
47529.496	-0.26680	0.	-0.104227	0.	0.	0.00049	0.	0.	0.000209	0.	0.	0.15	-0.2181	0.	0.	0.	1443	20
47534.063	-0.29826	0.	-0.122507	0.	0.	0.00298	0.	0.	0.000157	0.	0.	0.09	-0.9533	0.	0.	0.	1463	120
47534.391	-0.27856	0.	-0.107958	0.	0.	0.00054	0.	0.	0.000222	0.	0.	0.13	0.1213	0.	0.	0.	1443	120
4"/541.410	-0.29748	0.	-0.119325	0.	0.	0.00062	0.	0.	0.000251	0.	0.	0.11	-0.3302	0.	0.	0.	1443	120
47541.902	-0.30556	0.	-0.134272	0.	0.	0.00410	0.	0.	0.000252	0.	0.	0.15	-0.9118	0.	0.	0.	1463	120
47547.465	-0.31378	0.	-0.125168	0.	0.	0.00041	0.	0.	0.000199	0.	0.	0.09	-0.2804	0.	0.	0.	1443	120
47548.566	-0.30570	0.	-0.140326	0.	0.	0.00280	0.	0.	0.000147	0.	0.	0.12	-0.9544	0.	0.	0.	1463	120
47554.488	-0.32998	0.	-0.13625	0.	0.	0.0003B	0.	0.	0.000156	0.	0.	0.09	0.0653	0.	0.	0.	1443	120
47555.086	-0.30718	0.	-0.150985	0.	0.	0.00169	0.	0.	0.000082	0.	0.	0.10	-0.8836	0.	0.	0.	1463	120
47562.258	-0.30432	0.	-0.159712	0.	0.	0.00114	0.	0.	0.000064	0.	0.	0.16	-0.8751	0.	0.	0.	1463	220
47568.586	-0.31145	0.	-0.171549	0.	0.	0.000970	0.	0.	0.000665	0.	0.	1.68	-0.9257	0.	0.	0.	1463	120
47576.086	-0.29599	0.	-0.179806	0.	0.	0.00186	0.	0.	0.000097	0.	0.	0.08	-0.8814	0.	0.	0.	1463	120
47576.293	-0.38715	0.	-0.168609	0.	0.	0.00057	0.	0.	0.000238	0.	0.	0.12	--0.1286	0.	0.	0.	1443	120
47583.129	-0.40675	0.	-0.179482	0.	0.	0.00058	0.	0.	0.000297	0.	0.	0.17	-0.3114	0.	0.	0.	1443</	

47602.082	-0.04891	0.	-0.355631	0.	0.	0.00277	0.	0.000155	0.	0.	0.22	-0.9378	0.	0.	0.	1463	120
47688.090	-0.45002	0.	-0.369275	0.	0.	0.00043	0.	0.000232	0.	0.	0.11	0.1568	0.	0.	0.	1443	120
47688.711	-0.03666	0.	-0.363752	0.	0.	0.00194	0.	0.000109	0.	0.	0.35	-0.8348	0.	0.	0.	1463	120
47695.078	-0.44533	0.	-0.378706	0.	0.	0.00043	0.	0.000181	0.	0.	0.09	-0.1195	0.	0.	0.	1443	120
47695.746	-0.02129	0.	-0.371291	0.	0.	0.00321	0.	0.000149	0.	0.	0.19	-0.9439	0.	0.	0.	1463	120
47700.039	-0.43639	0.	-0.383339	0.	0.	0.00048	0.	0.000184	0.	0.	0.15	-0.2896	0.	0.	0.	1443	120
47702.691	0.00041	0.	-0.378694	0.	0.	0.00219	0.	0.000131	0.	0.	0.20	-0.8610	0.	0.	0.	1463	120
47711.004	-0.41348	0.	-0.395498	0.	0.	0.00044	0.	0.000151	0.	0.	0.17	-0.1579	0.	0.	0.	1443	120
47716.023	-0.40009	0.	-0.400582	0.	0.	0.00046	0.	0.000184	0.	0.	0.08	0.0756	0.	0.	0.	1443	120
47716.703	0.03741	0.	-0.390499	0.	0.	0.00204	0.	0.000100	0.	0.	0.13	-0.9132	0.	0.	0.	1463	120
47717.961	-0.39630	0.	-0.402845	0.	0.	0.00011	0.	0.000056	0.	0.	0.04	0.0709	0.	0.	0.	1545	220
47721.980	-0.38528	0.	-0.406693	0.	0.	0.00053	0.	0.000152	0.	0.	0.15	-0.1719	0.	0.	0.	1443	120
47723.664	0.06404	0.	-0.396741	0.	0.	0.00291	0.	0.000129	0.	0.	0.11	-0.9567	0.	0.	0.	1463	120
47729.973	-0.36661	0.	'-0.416865	0.	0.	0.00043	0.	0.000185	0.	0.	0.17	0.0557	0.	0.	0.	1443	120
47730.641	0.0713)	0.	-0.405469	0.	0.	0.00289	0.	0.000127	0.	0.	0.06	-0.9597	0.	0.	0.	1463	120
47736.930	-0.34399	0.	-0.424137	0.	0.	0.00035	0.	0.000150	0.	0.	0.20	-0.0650	0.	0.	0.	1443	120
.37737.598	0.06799	0.	-0.411683	0.	0.	0.00213	0.	0.000097	0.	0.	0.14	-0.9004	0.	0.	0.	1463	120
47743.875	-0.32190	0.	-0.431274	0.	0.	0.00040	0.	0.000199	0.	0.	0.13	-0.0860	0.	0.	0.	1443	120
47744.574	0.08309	0.	-0.418825	0.	0.	0.00288	0.	0.000106	0.	0.	0.16	-0.8977	0.	0.	0.	1463	120
47750.848	-0.30180	0.	-0.437708	0.	0.	0.00071	0.	0.000272	0.	0.	0.22	-0.3004	0.	0.	0.	1443	120
47751.574	0.10285	0.	-0.424872	0.	0.	0.00269	0.	0.000113	0.	0.	0.14	-0.9232	0.	0.	0.	1463	120
47758.539	0.11181	0.	-0.435480	0.	0.	0.00214	0.	0.000093	0.	0.	0.15	-0.9095	0.	0.	0.	1463	120
47764.833	-0.25725	0.	-0.455395	0.	0.	0.00047	0.	0.000204	0.	0.	0.10	-0.1282	0.	0.	0.	1443	120
47771.828	-0.23436	0.	-0.463481	0.	0.	0.00037	0.	0.000148	0.	0.	0.12	-0.2447	0.	0.	0.	1443	120
47776.777	-0.21772	0.	-0.468031	0.	0.	0.00013	0.	0.000066	0.	0.	0.06	0.1014	0.	0.	0.	1545	220
47778.813	-0.21136	0.	-0.469370	0.	0.	0.00038	0.	0.000155	0.	0.	0.12	-0.2417	0.	0.	0.	1443	120
47779.492	0.11298	0.	-0.457422	0.	0.	0.00344	0.	0.000203	0.	0.	0.24	-0.8575	0.	0.	0.	1463	120
47782.734	0.11231	0.	-0.461606	0.	0.	0.00096	0.	0.000064	0.	0.	0.08	-0.9171	0.	0.	0.	1565	220
47785.773	-0.19071	0.	-0.478927	0.	0.	0.00040	0.	0.000181	0.	0.	0.15	-0.1365	0.	0.	0.	1443	120
47786.492	0.08871	0.	-0.468410	0.	0.	0.00815	0.	0.000427	0.	0.	1.33	-0.7894	0.	0.	0.	1463	120
47792.797	-0.16999	0.	-0.487739	0.	0.	0.00050	0.	0.000212	0.	0.	0.10	-0.3664	0.	0.	0.	1443	120
47793.438	0.10750	0.	-0.478741	0.	0.	0.00262	0.	0.000143	0.	0.	0.23	-0.9019	0.	0.	0.	1463	120
47797.770	-0.15440	0.	-0.494554	0.	0.	0.00043	0.	0.000175	0.	0.	0.10	-0.1493	0.	0.	0.	1443	120
47802.703	-0.14262	0.	--0.501908	0.	0.	0.00019	0.	0.000069	0.	0.	0.06	0.5212	0.	0.	0.	1445	220
47805.734	-0.13540	0.	-0.504857	0.	0.	0.00036	0.	0.000152	0.	0.	0.13	-0.1991	0.	0.	0.	1443	120
47808.445	0.06721	0.	--0.500575	0.	0.	0.00321	0.	0.000148	0.	0.	0.04	-0.9638	0.	0.	0.	1463	120
47813.824	-0.117.87	0.	-0.519325	0.	0.	0.00233	0.	0.000671	0.	0.	1.10	0.3734	0.	0.	0.	1443	120
47814.395	0.05054	0.	-0.514380	0.	0.	0.00341	0.	0.000213	0.	0.	0.11	-0.8267	0.	0.	0.	1463	120
47821.691	-0.10151	0.	-0.532776	0.	0.	0.00043	0.	0.000165	0.	0.	0.08	-0.1246	0.	0.	0.	1443	120
47822/.676	-0.09202	0.	-0.545847	0.	0.	0.00033	0.	0.000140	0.	0.	0.09	-0.2925	0.	0.	0.	1443	120
47829.375	0.01081	0.	-0.546007	0.	0.	0.00290	0.	0.000133	0.	0.	0.10	-0.9652	0.	0.	0.	1463	120
47835.348	-0.00652	0.	-0.556007	0.	0.	0.00250	0.	0.000122	0.	0.	0.08	-0.9343	0.	0.	0.	1463	120
47841.340	-0.02730	0.	-0.571062	0.	0.	0.00286	0.	0.000130	0.	0.	0.08	-0.9584	0.	0.	0.	1463	120
47843.652	-0.07396	0.	-0.575918	0.	0.	0.00040	0.	0.000170	0.	0.	0.13	-0.2225	0.	0.	0.	1443	120
47848.379	-0.05224	0.	-0.585337	0.	0.	0.00251	0.	0.000127	0.	0.	0.14	-0.8511	0.	0.	0.	1463	120
47849.629	-0.07234	0.	-0.585796	0.	0.	0.00040	0.	0.000164	0.	0.	0.10	-0.1354	0.	0.	0.	1443	120
47855.355	-0.07720	0.	-0.602092	0.	0.	0.00177	0.	0.000086	0.	0.	0.13	-0.9013	0.	0.	0.	1463	120
47857.609	-0.07617	0.	-0.602696	0.	0.	0.00046	0.	0.000174	0.	0.	0.14	-0.0842	0.	0.	0.	1443	120
47862.582	-0.10340	0.	-0.616160	0.	0.	0.00216	0.	0.000130	0.	0.	0.20	-0.9064	0.	0.	0.	1463	120
47863.363	-0.07504	0.	-0.611894	0.	0.	0.00041	0.	0.000227	0.	0.	0.13	-0.0770	0.	0.	0.	1443	120
47863.641	-0.07581	0.	-0.612655	0.	0.	0.00037	0.	0.000223	0.	0.	0.05	0.2265	0.	0.	0.	1445	220
47869.730	-0.08487	0.	-0.626702	0.	0.	0.00049	0.	0.000189	0.	0.	0.10	-0.2462	0.	0.	0.	1443	120
47870.926	-0.13357	0.	-0.634928	0.	0.	0.00305	0.	0.000172	0.	0.	0.14	-0.9412	0.	0.	0.	1463	120
47876.289	-0.15210	0.	-0.643858	0.	0.	0.00279	0.	0.000171	0.	0.	0.31	-0.8661	0.	0.	0.	1465	120
47877.574	-0.09/10	0.	-0.638073	0.	0.	0.00034	0.	0.000142	0.	0.	0.08	-0.1196	0.	0.	0.	1443	120
47883.633	-0.10724	0.	-0.649690	0.	0.	0.00036	0.	0.000190	0.	0.	0.14	-0.1164	0.	0.	0.	1443	120
47891.238	-0.19760	0.	-0.669731	0.	0.	0.00272	0.	0.000177	0.	0.	0.14	-0.8660	0.	0.	0.	1465	120
47897.195	-0.21436	0.	0.317828	0.	0.	0.00263	0.	0.000132	0.	0.	0.08	-0.920	0.	0.	0.	1465	120
47905.199	-0.23956	0.	0.306104	0.	0.	0.00229	0.	0.000111	0.	0.	0.11	-0.8989	0.	0.	0.	1465	120
47905.359	-0.14950	0.	0.318992	0.	0.	0.00050	0.	0.000256	0.	0.	0.14	0.5421	0.	0.	0.	1443	120
47911.547	-0.16523	0.	0.308688	0.	0.	0.00042	0.	0.000156	0.	0.	0.18	-0.0254	0.	0.	0.	1443	120
47918.344	-0.17976	0.	0.300811	0.	0.	0.00054	0.	0.000262	0.	0.	0.07	0.0828	0.	0.	0.	1443	120
47919.117	-0.28873	0.	0.283572	0.	0.	0.00214	0.	0.000132	0.	0.	0.09	-0.8674	0.	0.	0.	1465	120
47924.445	-0.19708	0.	0.286613	0.	0.	0.00161	0.	0.000467	0.	0.	0.89	-0.0344	0.	0.	0.	1443	120
47925.102	-0.30273	0.	0.267640	0.	0.	0.00333	0.	0.000212	0.	0.	0.08	-0.8877	0.	0.	0.	1465	120
47933.090	-0.32775	0.	0.250003	0.	0.	0.00220	0.	0.000111	0.	0.	0.08	-0.9206	0.	0.	0.	1465	120
47933.414	-0.22840	0.	0.266235	0.	0.	0.00032	0.	0.000125	0.	0.	0.06	-0.0156	0.	0.	0.	1443	120
47940.820	-0.25931	0.	0.248838	0.	0.	0.00007	0.	0.000036	0.	0.	0.09	0.0189	0.	0.	0.	1545	220
47945.988	-0.34842	0.	0.'222059	0.	0.	0.00031	0.	0.000019	0.	0.	0.06	-0.9157					

48011.039	-0.34169	0.	0.073108	0.	0.	0.000232	0.	0.000125	0.	0.	0.13	-0.8357	0.	0.	0.	1563	120
48016.355	-0.51188	0.	0.075063	0.	0.	0.00094	0.	0.000333	0.	0.	0.28	0.4008	0.	0.	0.	1445	120
48019.004	--0.32946	0.	0.057633	0.	0.	0.00260	0.	0.000150	0.	0.	0.15	-0.8274	0.	0.	0.	1465	120
48024.027	-0.31201	0.	0.049883	0.	0.	0.00211	0.	0.000111	0.	0.	0.21	-0.8970	0.	0.	0.	1563	120
48024.293	-0.53525	0.	0.059661	0.	0.	0.00048	0.	0.000206	0.	0.	0.10	0.3284	0.	0.	0.	1543	120
48031.465	-0.29560	0.	0.034887	0.	0.	0.00297	0.	0.000187	0.	0.	0.20	-0.9397	0.	0.	0.	1465	120
48033.348	-0.55180	0.	0.037748	0.	0.	0.00059	0.	0.000217	0.	0.	0.07	0.3960	0.	0.	0.	1543	120
48039.098	-0.26814	0.	0.019594	0.	0.	0.00243	0.	0.000159	0.	0.	0.23	-0.8951	0.	0.	0.	1465	120
48040.297	-0.56235	0.	0.023507	0.	0.	0.00050	0.	0.000218	0.	0.	0.12	0.4490	0.	0.	0.	1543	120
48044.121	-0.24896	0.	0.009361	0.	0.	0.00241	0.	0.000123	0.	0.	0.13	-0.9316	0.	0.	0.	1465	120
48049.293	-0.56964	0.	0.005082	0.	0.	0.00112	0.	0.000366	0.	0.	0.40	0.2537	0.	0.	0.	1445	120
48052.113	-0.21932	0.	-0.002224	0.	0.	0.00197	0.	0.000097	0.	0.	0.17	-0.8988	0.	0.	0.	1563	120
48055.035	-0.57263	0.	-0.004035	0.	0.	0.00085	0.	0.000306	0.	0.	0.27	-0.0604	0.	0.	0.	1445	120
48060.164	-0.18758	0.	-0.016765	0.	0.	0.00299	0.	0.000160	0.	0.	0.26	-0.9418	0.	0.	0.	1563	120
48063.996	-0.57483	0.	-0.022458	0.	0.	0.00048	0.	0.000208	0.	0.	0.07	-0.0235	0.	0.	0.	1445	120
48066.047	-0.16870	0.	-0.025291	0.	0.	0.00253	0.	0.000121	0.	0.	0.23	-0.9213	0.	0.	0.	1465	120
48070.043	-0.56998	0.	-0.032743	0.	0.	0.00046	0.	0.000191	0.	0.	0.16	0.0070	0.	0.	0.	1445	120
48072.227	--0.14541	0.	-0.035661	0.	0.	0.00486	0.	0.000346	0.	0.	0.06	-0.9035	0.	0.	0.	1563	120
48077.078	-0.56596	0.	-0.045927	0.	0.	0.00047	0.	0.000191	0.	0.	0.14	-0.1308	0.	0.	0.	1543	120
48080.109	-0.11521	0.	-0.044288	0.	0.	0.00297	0.	0.000156	0.	0.	0.17	-0.9435	0.	0.	0.	1563	120
48081.016	-0.56178	0.	-0.049968	0.	0.	0.00038	0.	0.000170	0.	0.	0.07	0.0555	0.	0.	0.	1543	120
48091.211	-0.54687	0.	--0.066774	0.	0.	0.00060	0.	0.000284	0.	0.	0.11	0.3605	0.	0.	0.	1445	120
48092.469	-0.54501	0.	-0.067233	0.	0.	0.00007	0.	0.000032	0.	0.	0.08	0.0740	0.	0.	0.	1545	220
48093.914	-0.04619	0.	-0.061084	0.	0.	0.00198	0.	0.000102	0.	0.	0.21	-0.9014	0.	0.	0.	1563	120
48098.156	-0.53295	0.	--0.075316	0.	0.	0.00061	0.	0.000234	0.	0.	0.19	0.4133	0.	0.	0.	1543	120
48101.477	-0.01502	0.	-0.071289	0.	0.	0.00518	0.	0.000329	0.	0.	0.17	-0.9255	0.	0.	0.	1563	120
48103.012	-0.01332	0.	-0.073027	0.	0.	0.00030	0.	0.000017	0.	0.	0.07	-0.9162	0.	0.	0.	1565	220
48105.195	-0.51479	0.	-0.084761	0.	0.	0.00059	0.	0.000272	0.	0.	0.12	0.4867	0.	0.	0.	1543	120
48108.023	0.00293	0.	--0.077531	0.	0.	0.00266	0.	0.000124	0.	0.	0.17	-0.9094	0.	0.	0.	1563	120
48111.371	-0.49749	0.	--0.093545	0.	0.	0.00058	0.	0.000212	0.	0.	0.14	0.2589	0.	0.	0.	1543	120
48115.105	0.02505	0.	-0.090078	0.	0.	0.00335	0.	0.000211	0.	0.	0.21	-0.9052	0.	0.	0.	1465	120
48118.340	-0.47994	0.	-0.107179	0.	0.	0.00070	0.	0.000211	0.	0.	0.09	0.5826	0.	0.	0.	1445	120
48122.082	0.04244	0.	-0.099561	0.	0.	0.00299	0.	0.000162	0.	0.	0.12	-0.9153	0.	0.	0.	1465	120
48125.246	-0.46031	0.	-0.119601	0.	0.	0.00046	0.	0.000190	0.	0.	0.15	0.0246	0.	0.	0.	1445	120
48129.262	0.07233	0.	-0.114354	0.	0.	0.00288	0.	0.000150	0.	0.	0.18	-0.8699	0.	0.	0.	1465	120
48132.418	-0.43803	0.	-0.132913	0.	0.	0.00052	0.	0.000181	0.	0.	0.16	-0.3509	0.	0.	0.	1543	120
48136.113	0.08565	0.	-0.123393	0.	0.	0.00354	0.	0.000233	0.	0.	0.32	-0.9655	0.	0.	0.	1465	120
48139.344	-0.41623	0.	-0.144742	0.	0.	0.00045	0.	0.000149	0.	0.	0.28	0.0750	0.	0.	0.	1543	120
48144.113	0.10649	0.	-0.139997	0.	0.	0.00299	0.	0.000209	0.	0.	0.28	-0.9495	0.	0.	0.	1465	120
48147.371	-0.38492	0.	-0.160186	0.	0.	0.00052	0.	0.000170	0.	0.	0.27	-0.3563	0.	0.	0.	1445	120
48150.086	0.13031	0.	-0.150271	0.	0.	0.00551	0.	0.000354	0.	0.	0.20	--0.9828	0.	0.	0.	1465	120
48154.387	-0.35678	0.	-0.175022	0.	0.	0.00069	0.	0.000240	0.	0.	0.30	-0.6104	0.	0.	0.	1543	120
48157.184	-0.12483	0.	-0.165149	0.	0.	0.00495	0.	0.000289	0.	0.	0.23	-0.9229	0.	0.	0.	1465	120
48158.297	0.12502	0.	-0.166993	0.	0.	0.00045	0.	0.000025	0.	0.	0.06	-0.9426	0.	0.	0.	1565	220
48159.770	-0.33781	0.	-0.184761	0.	0.	0.00012	0.	0.000042	0.	0.	0.07	-0.0412	0.	0.	0.	1545	220
48160.383	-0.33373	0.	-0.185751	0.	0.	0.00114	0.	0.000265	0.	0.	0.12	-0.8277	0.	0.	0.	1543	120
48161.773	0.12819	0.	-0.172728	0.	0.	0.00037	0.	0.000020	0.	0.	0.07	-0.9381	0.	0.	0.	1565	220
48164.285	-0.31896	0.	-0.192877	0.	0.	0.00010	0.	0.000040	0.	0.	0.06	0.0316	0.	0.	0.	1545	220
48164.934	0.13544	0.	-0.179418	0.	0.	0.00238	0.	0.000135	0.	0.	0.12	--0.8973	0.	0.	0.	1465	120
48168.406	-0.304-/8	0.	--0.204090	0.	0.	0.00076	0.	0.000271	0.	0.	0.12	-0.6037	0.	0.	0.	1543	120
48172.176	0.12748	0.	-0.196974	0.	0.	0.00452	0.	0.000231	0.	0.	0.15	-0.9061	0.	0.	0.	1465	120
48178.418	-0.26458	0.	-0.224428	0.	0.	0.00074	0.	0.000266	0.	0.	0.11	-0.6642	0.	0.	0.	1543	120
48179.148	0.14016	0.	-0.211636	0.	0.	0.00329	0.	0.000176	0.	0.	0.25	-0.9103	0.	0.	0.	1465	120
48184.922	0.13240	0.	-0.223958	0.	0.	0.00658	0.	0.000318	0.	0.	0.08	-0.9676	0.	0.	0.	1465	120
48187.492	-0.22917	0.	-0.241656	0.	0.	0.00061	0.	0.000214	0.	0.	0.11	-0.4065	0.	0.	0.	1445	120
48192.195	0.12964	0.	-0.238154	0.	0.	0.00361	0.	0.000223	0.	0.	0.30	-0.9492	0.	0.	0.	1563	120
48194.402	-0.20949	0.	-0.256684	0.	0.	0.00061	0.	0.000243	0.	0.	0.13	-0.5490	0.	0.	0.	1543	120
48196.328	-0.20341	0.	-0.262382	0.	0.	0.00016	0.	0.000064	0.	0.	0.08	-0.0249	0.	0.	0.	1545	220
48198.500	0.13107	0.	-0.255768	0.	0.	0.00265	0.	0.000123	0.	0.	0.32	-0.9277	0.	0.	0.	1563	120
48203.453	-0.18142	0.	-0.276502	0.	0.	0.00059	0.	0.000225	0.	0.	0.15	-0.3577	0.	0.	0.	1543	120
48204.066	0.11698	0.	-0.266957	0.	0.	0.00333	0.	0.000192	0.	0.	0.11	-0.8939	0.	0.	0.	1465	120
48206.105	0.11303	0.	-0.271978	0.	0.	0.00035	0.	0.000021	0.	0.	0.04	-0.9408	0.	0.	0.	1565	220
48207.129	0.11279	0.	-0.274745	0.	0.	0.00059	0.	0.000031	0.	0.	0.03	-0.9332	0.	0.	0.	1565	220
48209.492	-0.15818	0.	-0.289528	0.	0.	0.00641	0.	0.001662	0.	0.	0.11	0.9395	0.	0.	0.	1543	120
48213.043	0.10663	0.	-0.287714	0.	0.	0.00366	0.	0.000161	0.	0.	0.14	-0.8585	0.	0.	0.	1465	120
48216.617	-0.14516	0.	-0.303147	0.	0.	0.00040	0.	0.000179	0.	0.	0.12	-0.1480	0.	0.	0.	1445	120
48219.785	0.08651	0.	-0.300298	0.	0.	0.00232	0.	0.000127	0.	0.	0.21	-0.8819	0.	0.	0.	1465	120
48223.426	-0.12886	0.	-0.319037	0.	0.	0.00055	0.	0.000208	0.	0.	0.12	-0.1396	0.	0.	0.	1543	120
48230.578	-0.11456	0.	-0.333785	0.	0.	0.00040	0.	0.000172	0.	0.	0.18	-0.1528</td					

48318.496	-0.23418	0.	0.479357	0.	0.	0.00254	0.	0.000141	0.	0.	0.11	-0.9510	0.	0.	0.	1463	120
48322.281	-0.13004	0.	0.485871	0.	0.	0.00041	0.	0.000161	0.	0.	0.18	0.0059	0.	0.	0.	1443	120
48324.863	-0.26040	0.	0.467091	0.	0.	0.00198	0.	0.000118	0.	0.	0.12	-0.9165	0.	0.	0.	1463	120
48330.2?34	-0.15540	0.	0.470907	0.	0.	0.00039	0.	0.000151	0.	0.	0.13	-0.2032	0.	0.	0.	1443	120
48331.410	-0.28104	0.	0.452225	0.	0.	0.00173	0.	0.000085	0.	0.	0.25	-0.9143	0.	0.	0.	1463	120
48335.203	-0.17016	0.	0.458155	0.	0.	0.00040	0.	0.000167	0.	0.	0.14	-0.0872	0.	0.	0.	1443	120
48339.426	-0.30732	0.	0.433255	0.	0.	0.00458	0.	0.000340	0.	0.	0.14	-0.9445	0.	0.	0.	1463	120
48345.555	-0.20512	0.	0.434591	0.	0.	0.00023	0.	0.000102	0.	0.	0.13	-0.0992	0.	0.	0.	1545	220
48346.461	-0.32790	0.	0.414555	0.	0.	0.00177	0.	0.000105	0.	0.	0.17	-0.8842	0.	0.	0.	1463	120
48348.105	-0.21519	0.	0.428575	0.	0.	0.00008	0.	0.000034	0.	0.	0.05	0.0184	0.	0.	0.	1545	220
48349.344	-0.22036	0.	0.426193	0.	0.	0.00032	0.	0.000141	0.	0.	0.13	0.0404	0.	0.	0.	1443	120
48353.125	-0.34536	0.	0.400655	0.	0.	0.00042	0.	0.000023	0.	0.	0.05	-0.9336	0.	0.	0.	1565	220
48353.379	-0.34392	0.	0.399961	0.	0.	0.00192	0.	0.000100	0.	0.	0.24	-0.9047	0.	0.	0.	1463	120
48355.590	-0.35161	0.	0.395500	0.	0.	0.00043	0.	0.000027	0.	0.	0.07	-0.9077	0.	0.	0.	1565	220
48359.926	-0.35632	0.	0.384214	0.	0.	0.00182	0.	0.000087	0.	0.	0.09	-0.9474	0.	0.	0.	1463	120
48367.379	-0.36723	0.	0.367944	0.	0.	0.00238	0.	0.000120	0.	0.	0.10	-0.8074	0.	0.	0.	1463	120
48370.371	-0.30344	0.	0.379182	0.	0.	0.00044	0.	0.0002)5	0.	0.	0.13	0.3089	0.	0.	0.	1543	120
48374.328	-0.37712	0.	0.349566	0.	0.	0.00209	0.	0.000098	0.	0.	0.07	-0.9301	0.	0.	0.	1463	120
48377.273	-0.32788	0.	0.362137	0.	0.	0.00034	0.	0.000146	0.	0.	0.10	0.1130	0.	0.	0.	1443	120
48380.371	-0.38281	0.	0.337411	0.	0.	0.00204	0.	0.000120	0.	0.	0.13	-0.8698	0.	0.	0.	1563	120
48384.316	-0.35584	0.	0.347116	0.	0.	0.00038	0.	0.000177	0.	0.	0.27	0.0686	0.	0.	0.	1443	120
48388.230	-0.38790	0.	0.317794	0.	0.	0.00218	0.	0.000099	0.	0.	0.09	-0.9423	0.	0.	0.	1463	120
48391.336	-0.38398	0.	0.328357	0.	0.	0.00040	0.	0.000145	0.	0.	0.09	0.0819	0.	0.	0.	1443	120
48393.250	-0.39264	0.	0.324142	0.	0.	0.00010	0.	0.000055	0.	0.	0.10	-0.1163	0.	0.	0.	1545	220
48395.711	-0.40215	0.	0.318540	0.	0.	0.00007	0.	0.000034	0.	0.	0.06	-0.0259	0.	0.	0.	1545	220
48395.793	-0.38474	0.	0.300956	0.	0.	0.00178	0.	0.000083	0.	0.	0.13	-0.9209	0.	0.	0.	1463	120
48400.355	-0.41789	0.	0.307529	0.	0.	0.00048	0.	0.000205	0.	0.	0.13	0.3436	0.	0.	0.	1543	120
48401.395	-0.37491	0.	0.288595	0.	0.	0.00283	0.	0.000219	0.	0.	0.13	-0.9241	0.	0.	0.	1465	120
48403.887	-0.37316	0.	0.284877	0.	0.	0.00025	0.	0.000013	0.	0.	0.06	-0.9190	0.	0.	0.	1565	220
48407.531	-0.44435	0.	0.295542	0.	0.	0.00058	0.	0.000208	0.	0.	0.08	0.2764	0.	0.	0.	1445	120
48408.176	-0.37416	0.	0.279374	0.	0.	0.00244	0.	0.000157	0.	0.	0.45	-0.8861	0.	0.	0.	1465	120
48412.523	-0.46094	0.	0.285818	0.	0.	0.00053	0.	0.000176	0.	0.	0.10	0.2566	0.	0.	0.	1443	120
48415.250	-0.35789	0.	0.264199	0.	0.	0.00225	0.	0.000)37	0.	0.	0.13	-0.9174	0.	0.	0.	1465	120
48419.371	-0.48503	0.	0.269243	0.	0.	0.00024	0.	0.000138	0.	0.	0.05	0.4246	0.	0.	0.	1443	120
48423.258	-0.34079	0.	0.247919	0.	0.	0.00152	0.	0.000083	0.	0.	0.10	-0.8972	0.	0.	0.	1465	120
48426.371	-0.50572	0.	0.253424	0.	0.	0.00028	0.	0.000152	0.	0.	0.06	0.3501	0.	0.	0.	1443	120
48428.465	-0.51037	0.	0.249545	0.	0.	0.00013	0.	0.000057	0.	0.	0.10	0.1210	0.	0.	0.	1545	220
48430.355	-0.32954	0.	0.234979	0.	0.	0.00109	0.	0.000069	0.	0.	0.06	-0.8198	0.	0.	0.	1463	120
48433.332	-0.52011	0.	0.243262	0.	0.	0.00024	0.	0.000136	0.	0.	0.06	0.4038	0.	0.	0.	1443	120
48437.723	-0.31396	0.	0.228170	0.	0.	0.00031	0.	0.000018	0.	0.	0.06	-0.8957	0.	0.	0.	1565	220
48442.609	-0.54141	0.	0.230357	0.	0.	0.00037	0.	0.000123	0.	0.	0.05	-0.5244	0.	0.	0.	1443	120
48444.934	-0.29427	0.	0.218196	0.	0.	0.00128	0.	0.000055	0.	0.	0.06	-0.8992	0.	0.	0.	1463	120
48446.633	-0.54727	0.	0.225005	0.	0.	0.00041	0.	0.000144	0.	0.	0.10	-0.5305	0.	0.	0.	1443	120
48450.715	-0.27041	0.	0.211764	0.	0.	0.00200	0.	0.000088	0.	0.	0.12	-0.9350	0.	0.	0.	1463	120
48452.898	-0.55793	0.	0.214334	0.	0.	0.00027	0.	0.000114	0.	0.	0.07	0.0020	0.	0.	0.	1443	120
48457.500	-0.25110	0.	0.201447	0.	0.	0.00157	0.	0.000092	0.	0.	0.10	-0.9306	0.	0.	0.	1463	120
48462.426	-0.56902	0.	0.200757	0.	0.	0.00026	0.	0.0001)1	0.	0.	0.05	0.2869	0.	0.	0.	1443	120
48465.016	-0.21926	0.	0.194099	0.	0.	0.00167	0.	0.0000-11	0.	0.	0.08	-0.9572	0.	0.	0.	1463	120
48468.527	-0.57433	0.	0.190870	0.	0.	0.00031	0.	0.000105	0.	0.	0.08	-0.4143	0.	0.	0.	1443	120
48473.020	-0.19306	0.	0.183390	0.	0.	0.00113	0.	0.000057	0.	0.	0.07	-0.9259	0.	0.	0.	1463	120
48474.828	-0.57295	0.	0.183073	0.	0.	0.00037	0.	0.000178	0.	0.	0.08	-0.0289	0.	0.	0.	1445	120
48479.195	-0.16878	0.	0.175916	0.	0.	0.00266	0.	0.000210	0.	0.	0.11	-0.9170	0.	0.	0.	1465	120
48481.527	-0.57099	0.	0.170708	0.	0.	0.00057	0.	0.000182	0.	0.	0.05	-0.6995	0.	0.	0.	1445	120
48486.191	-0.14802	0.	0.164924	0.	0.	0.00397	0.	0.000135	0.	0.	0.16	-0.9444	0.	0.	0.	1465	120
48490.371	-0.56074	0.	0.157447	0.	0.	0.00030	0.	0.000)62	0.	0.	0.07	0.1662	0.	0.	0.	1443	120
48492.516	-0.12548	0.	0.157198	0.	0.	0.00026	0.	0.000013	0.	0.	0.07	-0.9248	0.	0.	0.	1565	220
48493.090	-0.12962	0.	0.156487	0.	0.	0.00169	0.	0.000105	0.	0.	0.15	-0.8960	0.	0.	0.	1463	120
48496.504	-0.55289	0.	0.145466	0.	0.	0.00034	0.	0.000131	0.	0.	0.11	-0.6084	0.	0.	0.	1443	120
48499.785	-0.54888	0.	0.139150	0.	0.	0.00006	0.	0.000030	0.	0.	0.08	-0.0078	0.	0.	0.	1545	220
48500.340	-0.10079	0.	0.142575	0.	0.	0.00158	0.	0.000085	0.	0.	0.08	-0.9517	0.	0.	0.	1463	120
48504.352	-0.54270	0.	0.130066	0.	0.	0.00027	0.	0.000093	0.	0.	0.11	0.0533	0.	0.	0.	1443	120
48511.332	-0.53227	0.	0.111914	0.	0.	0.00026	0.	0.000100	0.	0.	0.05	0.0590	0.	0.	0.	1443	120
48513.688	-0.05885	0.	0.114197	0.	0.	0.00127	0.	0.000061	0.	0.	0.06	-0.8685	0.	0.	0.	1463	120
48518.332	-0.51690	0.	0.098907	0.	0.	0.00025	0.	0.000094	0.	0.	0.06	0.1302	0.	0.	0.	1443	120
48520.355	-0.03463	0.	0.102692	0.	0.	0.00130	0.	0.000080	0.	0.	0.34	-0.9170	0.	0.	0.	1463	120
48524.645	-0.50299	0.	0.083776	0.	0.	0.00031	0.	0.000135	0.	0.	0.06	0.3940	0.	0.	0.	1443	120
48527.559	-0.01288	0.	0.085914	0.	0.	0.00142	0.	0.000057	0.	0.	0.18	-0.8082	0.	0.	0.	1463	120
48531.641	-0.48468	0.	0.068303	0.	0.	0.00027	0.	0.000120	0.	0.	0.04	0.3197	0.	0.	0.	1443	120
48534.391	0.00491	0.	0.071368	0.	0.	0.00108	0.	0.000056	0.	0.	0.11</						

48607.547	--0.25159	0.	-0.102695	0.	0.	0.00025	0.	0.000083	0.	0.	0.10	-0.0915	0.	0.	0.	1443	120
48613.090	0.07972	0.	-0.103679	0.	0.	0.00125	0.	0.000063	0.	0.	0.06	-0.9198	0.	0.	0.	1463	120
48613.480	0.07797	0.	-0.104497	0.	0.	0.00024	0.	0.000013	0.	0.	0.07	-0.9347	0.	0.	0.	1565	220
48616.586	-0.22776	0.	-0.121802	0.	0.	0.00028	0.	0.000103	0.	0.	0.04	-0.1405	0.	0.	0.	1443	120
48620.270	0.07472	0.	-0.121230	0.	0.	0.00081	0.	0.000042	0.	0.	0.05	-0.8291	0.	0.	0.	1463	120
48621.426	-0.21594	0.	-0.132541	0.	0.	0.00031	0.	0.000107	0.	0.	0.10	0.1077	0.	0.	0.	1443	120
48625.484	-0.20441	0.	-0.139523	0.	0.	0.00007	0.	0.000032	0.	0.	0.06	0.0110	0.	0.	0.	1545	220
48627.129	0.06641	0.	-0.133986	0.	0.	0.00120	0.	0.000058	0.	0.	0.06	-0.9197	0.	0.	0.	1463	120
48628.512	-0.19699	0.	-0.145430	0.	0.	0.00024	0.	0.000085	0.	0.	0.07	-0.0434	0.	0.	0.	1443	120
48633.125	0.05633	0.	--0.148837	0.	0.	0.00109	0.	0.000051	0.	0.	0.06	-0.9162	0.	0.	0.	1463	120
48635.387	-0.18139	0.	-0.)61953	0.	0.	0.00029	0.	0.000101	0.	0.	0.05	0.1752	0.	0.	0.	1443	120
48640.160	0.04379	0.	-0.165486	0.	0.	0.00129	0.	0.000060	0.	0.	0.03	-0.9580	0.	0.	0.	1463	120
48642.391	-0.16610	0.	--0.177780	0.	0.	0.00028	0.	0.000096	0.	0.	0.11	0.0136	0.	0.	0.	1443	120
48647.145	0.03143	0.	-0.186072	0.	0.	0.00132	0.	0.000057	0.	0.	0.06	-0.9447	0.	0.	0.	1463	120
48649.438	-0.15273	0.	-0.196317	0.	0.	0.00023	0.	0.000081	0.	0.	0.03	-0.1522	0.	0.	0.	1443	120
48653.133	0.02059	0.	-0.199345	0.	0.	0.00099	0.	0.000044	0.	0.	0.04	-0.9223	0.	0.	0.	1463	120
48654.484	0.01943	0.	--0.202447	0.	0.	0.00017	0.	0.000010	0.	0.	0.07	-0.9095	0.	0.	0.	1565	220
48657.29	-0.14154	0.	--0.213220	0.	0.	0.00026	0.	0.000115	0.	0.	0.04	0.3482	0.	0.	0.	1443	120
48658.090	0.01265	0.	-0.211682	0.	0.	0.00122	0.	0.000052	0.	0.	0.07	-0.9216	0.	0.	0.	1463	120
48664.344	-0.13214	0.	-0.229992	0.	0.	0.00024	0.	0.000090	0.	0.	0.16	-0.0981	0.	0.	0.	1443	120
48668.016	-0.01083	0.	-0.235461	0.	0.	0.00105	0.	0.000046	0.	0.	0.05	-0.9137	0.	0.	0.	1463	120
48671.445	-0.12586	0.	--0.246057	0.	0.	0.00026	0.	0.000101	0.	0.	0.08	-0.1587	0.	0.	0.	1445	120
48675.578	-0.03219	0.	-0.256166	0.	0.	0.00118	0.	0.000056	0.	0.	0.04	-0.8537	0.	0.	0.	1463	120
48679.129	-0.11846	0.	--0.263095	0.	0.	0.00066	0.	0.000243	0.	0.	0.10	-0.4835	0.	0.	0.	1445	120
48681.641	-0.05167	0.	-0.268650	0.	0.	0.00355	0.	0.000065	0.	0.	0.04	-0.9478	0.	0.	0.	1463	120
48687.246	-0.11154	0.	-0.280706	0.	0.	0.00032	0.	0.000120	0.	0.	0.08	0.1576	0.	0.	0.	1445	120
48689.270	-0.07591	0.	-0.288776	0.	0.	0.00123	0.	0.000064	0.	0.	0.08	-0.9124	0.	0.	0.	1463	120
48693.543	-0.11144	0.	-0.295863	0.	0.	0.00024	0.	0.000094	0.	0.	0.05	0.1056	0.	0.	0.	1443	120
48695.730	-0.11333	0.	-0.301302	0.	0.	0.00006	0.	0.000027	0.	0.	0.10	-0.0329	0.	0.	0.	1545	220
48697.016	-0.09964	0.	-0.309499	0.	0.	0.00123	0.	0.000060	0.	0.	0.07	-0.8897	0.	0.	0.	1463	120
48700.457	-0.11759	0.	-0.316299	0.	0.	0.00021	0.	0.000097	0.	0.	0.05	0.2158	0.	0.	0.	1443	120
48702.363	-0.12038	0.	-0.327663	0.	0.	0.00022	0.	0.000011	0.	0.	0.07	-0.9239	0.	0.	0.	1565	220
48703.277	-0.12407	0.	-0.330319	0.	0.	0.00131	0.	0.000059	0.	0.	0.13	-0.9143	0.	0.	0.	1463	120
48703.648	-0.12015	0.	-0.325322	0.	0.	0.00005	0.	0.000022	0.	0.	0.09	0.0140	0.	0.	0.	1545	220
48705.512	-0.12218	0.	-0.329759	0.	0.	0.00024	0.	0.000095	0.	0.	0.06	0.0921	0.	0.	0.	1443	120
48709.215	-0.14190	0.	-0.345301	0.	0.	0.00019	0.	0.00000	0.	0.	0.06	-0.9227	0.	0.	0.	1565	220
48711.090	-0.14981	0.	-0.350424	0.	0.	0.00149	0.	0.000058	0.	0.	0.14	-0.9132	0.	0.	0.	1463	120
48714.406	--0.13714	0.	-0.352576	0.	0.	0.00021	0.	0.000089	0.	0.	0.07	0.0567	0.	0.	0.	1443	120
48716.250	-0.13850	0.	-0.357672	0.	0.	0.00005	0.	0.000022	0.	0.	0.06	-0.0693	0.	0.	0.	1545	220
48717.066	-0.16554	0.	-0.367912	0.	0.	0.00145	0.	0.000064	0.	0.	0.12	-0.9107	0.	0.	0.	1463	120
48721.391	-0.14494	0.	-0.369850	0.	0.	0.00021	0.	0.000089	0.	0.	0.04	0.0984	0.	0.	0.	1443	120
48723.008	-0.14756	0.	-0.373804	0.	0.	0.00004	0.	0.000021	0.	0.	0.06	-0.0306	0.	0.	0.	1545	220
48723.945	-0.17694	0.	-0.385665	0.	0.	0.00118	0.	0.000051	0.	0.	0.05	-0.9455	0.	0.	0.	1463	120
48725.566	-0.18327	0.	-0.390829	0.	0.	0.00025	0.	0.000013	0.	0.	0.09	-0.9284	0.	0.	0.	1565	220
48726.453	-0.15456	0.	-0.384394	0.	0.	0.00024	0.	0.000096	0.	0.	0.04	0.1054	0.	0.	0.	1443	120
48730.828	-0.16290	0.	-0.397848	0.	0.	0.00005	0.	0.000022	0.	0.	0.07	0.0124	0.	0.	0.	1545	220
48731.047	-0.20116	0.	-0.408619	0.	0.	0.00115	0.	0.000051	0.	0.	0.05	-0.9171	0.	0.	0.	1463	120
48732.383	--0.20336	0.	-0.411879	0.	0.	0.00022	0.	0.000012	0.	0.	0.10	-0.9093	0.	0.	0.	1565	220
48735.387	-0.17033	0.	-0.407789	0.	0.	0.00023	0.	0.000098	0.	0.	0.04	0.1863	0.	0.	0.	1443	120
48737.098	-0.21495	0.	-0.422646	0.	0.	0.00122	0.	0.000051	0.	0.	0.05	-0.9133	0.	0.	0.	1463	120
48740.414	-0.17914	0.	-0.420234	0.	0.	0.00024	0.	0.000099	0.	0.	0.12	0.0726	0.	0.	0.	1443	120
48745.000	-0.23629	0.	-0.443393	0.	0.	0.00124	0.	0.000054	0.	0.	0.05	-0.9201	0.	0.	0.	1463	120
48748.371	-0.19285	0.	-0.437718	0.	0.	0.00024	0.	0.0000105	0.	0.	0.05	0.2401	0.	0.	0.	1443	120
48752.090	-0.20243	0.	-0.446115	0.	0.	0.00006	0.	0.000023	0.	0.	0.08	-0.0665	0.	0.	0.	1545	220
48755.375	-0.20982	0.	-0.454786	0.	0.	0.00024	0.	0.000096	0.	0.	0.09	0.1084	0.	0.	0.	1443	120
48759.301	-0.26896	0.	-0.477025	0.	0.	0.00111	0.	0.000055	0.	0.	0.08	-0.9255	0.	0.	0.	1463	120
48760.359	-0.21940	0.	-0.465446	0.	0.	0.00024	0.	0.000097	0.	0.	0.14	0.0998	0.	0.	0.	1443	120
48769.391	-0.24044	0.	-0.484168	0.	0.	0.00030	0.	0.000108	0.	0.	0.04	0.4544	0.	0.	0.	1443	120
48773.168	-0.28821	0.	-0.505980	0.	0.	0.00103	0.	0.000046	0.	0.	0.06	-0.9052	0.	0.	0.	1463	120
48780.031	-0.29756	0.	-0.517921	0.	0.	0.00108	0.	0.000049	0.	0.	0.22	-0.8874	0.	0.	0.	1463	120
48785.371	-0.27686	0.	-0.513896	0.	0.	0.00024	0.	0.000100	0.	0.	0.11	0.2953	0.	0.	0.	1443	120
48787.082	-0.30355	0.	-0.530618	0.	0.	0.00151	0.	0.000076	0.	0.	0.11	-0.9037	0.	0.	0.	1463	120
48790.582	-0.29143	0.	-0.520972	0.	0.	0.00027	0.	0.000095	0.	0.	0.08	0.1085	0.	0.	0.	1443	120
48792.988	-0.30908	0.	-0.539302	0.	0.	0.00105	0.	0.000047	0.	0.	0.08	-0.9148	0.	0.	0.	1463	120
48797.375	-0.30799	0.	-0.532405	0.	0.	0.00022	0.	0.000090	0.	0.	0.09	0.0732	0.	0.	0.	1443	120
48805.449	-0.32961	0.	-0.456100	0.	0.	0.00041	0.	0.000151	0.	0.	0.06	0.1728	0.	0.	0.	1543	120
48807.402	-0.31726	0.	-0.438575	0.	0.	0.00264	0.	0.000133	0.	0.	0.25	-0.9598	0.	0.	0.	1563	120
48808.852	-0.33904	0.	-0.450094	0.	0.	0.00009	0.	0.000035	0.	0.	0.13	-0.2480	0.	0.	0.	1545	220
48811.527	-0.34549	0.	-0.445988	0.	0.	0.00033	0.	0.000106	0.	0.	0.08	0.0902	0				

48887.242	-0.22521	0.	0.307274	0.	0.	0.00028	0.	0.000015	0.	0.	0.07	-0.9070	0.	0.	0.	1565	220
48889.250	-0.49926	0.	0.307433	0.	0.	0.00032	0.	0.000133	0.	0.	0.08	0.3459	0.	0.	0.	1443	120
48891.223	-0.21863	0.	0.297527	0.	0.	0.00109	0.	0.000052	0.	0.	0.14	-0.9201	0.	0.	0.	1463	120
48895.551	-0.49979	0.	0.291248	0.	0.	0.00025	0.	0.000103	0.	0.	0.06	-0.1343	0.	0.	0.	1443	120
48898.711	-0.20083	0.	0.281969	0.	0.	0.00161	0.	0.000068	0.	0.	0.24	-0.9150	0.	0.	0.	1463	120
48902.574	-0.50310	0.	0.276401	0.	0.	0.00039	0.	0.000153	0.	0.	0.03	0.4549	0.	0.	0.	1443	120
48905.594	-0.18604	0.	0.266641	0.	0.	0.00103	0.	0.000045	0.	0.	0.07	-0.9089	0.	0.	0.	1463	120
48912.289	-0.16556	0.	0.251848	0.	0.	0.00113	0.	0.000049	0.	0.	0.04	-0.9265	0.	0.	0.	1563	120
48917.164	-0.50238	0.	0.239299	0.	0.	0.00029	0.	0.000112	0.	0.	0.05	0.2702	0.	0.	0.	1443	120
48919.164	-0.14865	0.	0.232711	0.	0.	0.00106	0.	0.000054	0.	0.	0.08	-0.9352	0.	0.	0.	1463	120
48923.336	-0.49999	0.	0.221244	0.	0.	0.00042	0.	0.000129	0.	0.	0.06	-0.4105	0.	0.	0.	1443	120
48926.250	-0.13830	0.	0.215807	0.	0.	0.00108	0.	0.000045	0.	0.	0.06	-0.9331	0.	0.	0.	1463	120
489?.7.801	-0.49624	0.	0.211021	0.	0.	0.00005	0.	0.000023	0.	0.	0.07	-0.1388	0.	0.	0.	1545	220
48933.832	-0.11977	0.	0.197656	0.	0.	0.00183	0.	0.000092	0.	0.	0.10	-0.8949	0.	0.	0.	1465	120
48937.828	-0.48689	0.	0.185819	0.	0.	0.00027	0.	0.000102	0.	0.	0.05	0.329-1	0.	0.	0.	1443	120
48939.484	-0.10504	0.	0.185118	0.	0.	0.00135	0.	0.000063	0.	0.	0.09	-0.8959	0.	0.	0.	1563	120
48942.059	-0.48436	0.	0.)75933	0.	0.	0.00005	0.	0.000027	0.	0.	0.08	-0.0497	0.	0.	0.	1545	220
48944.789	-0.48250	0.	0.167817	0.	0.	0.00029	0.	0.00004	0.	0.	0.07	0.1994	0.	0.	0.	1543	120
48947.426	-0.08469	0.	0.)63532	0.	0.	0.00)31	0.	0.000064	0.	0.	0.09	-0.9023	0.	0.	0.	1563	120
48948.613	-0.08236	0.	0.160397	0.	0.	0.00022	0.	0.000014	0.	0.	0.08	-0.9003	0.	0.	0.	1565	220
4895).430	-0.47452	0.	0.149506	0.	0.	0.00035	0.	0.000141	0.	0.	0.09	0.2561	0.	0.	0.	1543	120
48955.066	-0.07157	0.	0.146162	0.	0.	0.00102	0.	0.000052	0.	0.	0.05	-0.9337	0.	0.	0.	1463	120
48957.672	-0.46199	0.	0.134917	0.	0.	0.00025	0.	0.000095	0.	0.	0.08	-0.1648	0.	0.	0.	1445	120
48962.074	-0.05978	0.	0.128159	0.	0.	0.00139	0.	0.000065	0.	0.	0.12	-0.9138	0.	0.	0.	1465	120
48966.207	-0.44804	0.	0.112543	0.	0.	0.00039	0.	0.000130	0.	0.	0.12	-0.4149	0.	0.	0.	1445	120
48968.871	-0.04126	0.	0.1))323	0.	0.	0.00161	0.	0.000086	0.	0.	0.22	-0.8676	0.	0.	0.	1463	120
48972.477	-0.43786	0.	0.094564	0.	0.	0.00030	0.	0.000115	0.	0.	0.06	0.0595	0.	0.	0.	1543	120
48975.641	-0.03258	0.	0.092083	0.	0.	0.00129	0.	0.000065	0.	0.	0.06	-0.9169	0.	0.	0.	1563	120
48980.340	-0.41973	0.	0.0"15337	0.	0.	0.00085	0.	0.0000435	0.	0.	0.02	-0.6947	0.	0.	0.	1443	120
48983.164	-0.01437	0.	0.076049	0.	0.	0.00225	0.	0.000099	0.	0.	0.02	-0.8899	0.	0.	0.	1463	120
48983.625	-0.01337	0.	0.074944	0.	0.	0.00025	0.	0.000015	0.	0.	0.08	-0.9040	0.	0.	0.	1565	220
48997.133	0.01647	0.	0.039972	0.	0.	0.00093	0.	0.000039	0.	0.	0.08	-0.9117	0.	0.	0.	1463	120
49000.391	-0.37192	0.	0.022290	0.	0.	0.00054	0.	0.000177	0.	0.	0.09	0.4168	0.	0.	0.	1443	120
49004.516	0.02348	0.	0.019766	0.	0.	0.00107	0.	0.000049	0.	0.	0.08	-0.8926	0.	0.	0.	1463	120
49007.176	-0.35467	0.	0.004822	0.	0.	0.00074	0.	0.000232	0.	0.	0.15	0.1243	0.	0.	0.	1443	122
49011.621	0.03)12	0.	0.004255	0.	0.	0.00134	0.	0.000068	0.	0.	0.03	-0.9265	0.	0.	0.	1463	120
49018.637	0.03791	0.	-0.014502	0.	0.	0.00)14	0.	0.000056	0.	0.	0.06	-0.8751	0.	0.	0.	1463	120
49021.070	-0.31847	0.	-0.029611	0.	0.	0.00040	0.	0.000120	0.	0.	0.07	-0.2640	0.	0.	0.	1443	120
49025.059	0.04358	0.	-0.030980	0.	0.	0.00094	0.	0.000039	0.	0.	0.06	-0.9125	0.	0.	0.	1463	120
49028.309	-0.30184	0.	-0.051010	0.	0.	0.00027	0.	0.000112	0.	0.	0.07	0.1247	0.	0.	0.	1443	120
49031.961	0.04701	0.	-0.051973	0.	0.	0.00101	0.	0.000042	0.	0.	0.04	-0.9392	0.	0.	0.	1463	120
49035.055	-0.28239	0,	-0.068105	0.	0.	0.00027	0.	0.000120	0.	0.	0.09	0.1245	0.	0.	0.	1443	120
49038.133	0.05356	0.	-0.066614	0.	0.	0.00122	0.	0.000050	0.	0.	0.23	-0.8900	0.	0.	0.	1463	120
49043.414	-0.,26566	0.	-0.089724	0.	0.	0.00026	0.	0.000110	0.	0.	0.05	-0.1134	0.	0.	0.	1445	120
49045.383	0.04386	0.	-0.086198	0.	0.	0.00134	0.	0.000074	0.	0.	0.14	-0.9021	0.	0.	0.	1463	120
49049.352	-0.25117	0.	-0.103052	0.	0.	0.00025	0.	0.000096	0.	0.	0.05	-0.)855	0.	0.	0.	)445	]20
49058.086	-0.23506	0.	-0.128484	0.	0.	0.00030	0.	0.000188	0.	0.	0.08	-0.2283	0.	0.	0.	1445	120

DEEP SPACE NETWORK VLBI STATION LOCATIONS FROM REFERENCE FRAME JPL 199 3-1 IN THE IERS FORMAT

Domes ID	Station Name	X Meters	Y Meters	Z Meters	Mean MJD	Data Span Days	X Err Meters	Y Err Meters	Z Err Meters
40405 S003DSS 12		-2350443.664	-4651980.829	3665630.981	45759.0	785.0	0.010	0.014	0.013
40405 S0141>SS 13		-2351129.041	-4655477.102	3660956.964	45631.8	1391.0	0.008	0.011	0.010
40405 s0011>ss 14		-2353621.103	-4641341.531	3677052.358	46906.7	5196.0	0.006	0.008	0.008
40405 S019DSS 15		-2353538.649	-4641649.508	3676670.041	48355.1	1913.0	0.005	0.008	0.007
501_03S005DSS 42		-4460980.847	2682413.527	-3674582.275	46783.7	1708.0	0.019	0.012	0.014
50103 S001DSS 43		-4460894.418	2682361.557	-3674748.785	46709.2	5192.0	0.014	0.007	0.009
50103S010DSS 45		-4460935.088	2682765.716	-3674381.612	48503.0	1642.0	0.014	0.006	0.008
13407 S003DSS 61		4849245.266	-360278.264	4114884.370	46435.4	1778.0	0.014	0.011	0.017
13407 S001DSS 63		4849092.700	-360180.668	4115109.037	46658.3	4802.0	0.010	0.010	0.014
I3407s010DSS 65		4849336.797	-360488.959	4114748.709	48456.9	1605.0	0.010	0.009	0.014

Station coordinate rates

Domes ID	Station Name	VX Meters/ Year	VY Meters/ Year	VZ Meters/ Year	Mean MJD	Data Span Days	VX Err Meters/ Year	VY Err Meters/ Year	VZ Err Meters/ Year	Reference Epoch MJD
40405 S003DSS 12		-0.0141	0.0030	-0.0046	45759.0	785.0	0.0012	0.0021	0.0016	47161.0
40405 S0141>SS 13		-0.0141	0.0030	-0.0046	45631.8	1391.0	0.0012	0.0021	0.0016	47161.0
40405S001DSS 14		-0.0141	0.0030	-0.0046	46906.7	5196.0	0.0012	0.0021	0.0016	47161.0
40405S019DSS 15		-0.0141	0.0030	-0.0046	48355.1	1913.0	0.0012	0.0021	0.0016	47161.0
50103 S005DSS 42		-0.0394	0.0003	0.0422	46783.7	1708.0	0.0035	0.0011	0.0022	47161.0
50103S001DSS 43		-0.0394	0.0003	0.0422	46709.2	5192.0	0.0035	0.0011	0.0022	47161.0
50103S010DSS 45		-0.0394	0.0003	0.0422	48503.0	1642.0	0.0035	0.0011	0.0022	47161.0
13407 S003DSS 61		-0.0087	0.0218	0.0076	46435.4	1778.0	0.0028	0.0021	0.0032	47161.0
13407S001DSS 63		-0.0087	0.0218	0.0076	46658.3	4802.0	0.0028	0.0021	0.0032	47161.0
I3407s010IES 65		-0.0087	0.0218	0.0076	48456.9	1605.0	0.0028	0.0021	0.0032	47161.0

Station coordinate covariance matrix in units of
(millimeters)**2 for positions,
(millimeters/year)**2 for rates, and
(millimeters)*(millimeters/year) for position-rate cross terms,

Parameter #s:	x (mm^2)	y (mm^2)	z (mm/y)^2
Dss 12	NOAM	1 2 3 7 8 9 13 14 15	4 5 6 10 11 12 16 17 18
DSS 15	NOAM	19 20 21	22 23 24
DSS 42	AUST	25 26 27	28 29 30
DSS 43	AUST	31 32 33	34 35 36
DSS 45	AUST	37 38 39	40 41 42
DSS 61	EURA	43 44 45	46 47 48
DSS 63	EURA	49 50 51	52 53 54
DSS 65	EURA	55 56 57	58 59 60
1	1.08380D+02		
2	-1.19134D+01	1.86773D+02	
3	-2.14885D+01	-6.16834D+01	1.66499D+02
4	-2.05293D-01	-8.32782D-01	-2.46740D-01
5	-8.66558D-01	-3.23626D+00	9.65855D-01
6	6.25301D-01	2.272431D+00	-9.60373D-01
7	4.01563D+01	6.68879D+00	-2.22427D+01
8	3.20595D+00	9.32050D+01	-3.10437DIOI
9	-1.98545D+01	-2.74807D+01	8.95188D+01
10	-2.05293D-01	-8.32782D-01	-2.46740D-01
11	-8.66558D-01	-3.23626D+00	9.65855D-01
12	6.25301D-01	2.27243D+00	-9.60373D-01
13	2.454031>101	3.29935D-01	-9.84197D+00
14	7.70656D-01	4.56892D+01	-4.28102D+00
15	-1.07670D+01	-3.93819D+00	4.17271D+01

16 -2 05293D-01 -8. 32782D-01 -2. 46740D-01 1. 32755D+00 9. 70186D-01 -1. 05388D+00
 -1. 00068D+00 -1. 32041D+00 -3. 82232D-02 1. 32755D+00 9. 70186D-01 -1. 05388D+00
 -1. 25931D+00 -1. 81328D+00 3. 51611D-01 1. 32755D+00
 17 -8. 66558D-01 -3. 23626D+00 9. 65855D-01 9. 70186D-01 4. 28606D+00 -1. 81582D+00
 -1. 15799D+00 -4. 88556D+00 2. 18305D+00 9. 70186D-01 4. 28606D+00 -1. 81582D+00
 -1. 29593D+00 -5. 78117D+00 3. 05983D+00 9. 70186D-01 4. 28606D+00
 18 6. 25301D-01 2. 27243D+00 -9. 60373D-01 -1. 05388D+00 -1. 81582D+00 2. 62575D+00
 4. 20478D-01 3. 38383D+00 -1. 86695D+00 -1. 05388D+00 -1. 81582D+00 2. 62575D+00
 3. 841391*OI 3. 85017D+00 -2. 37894D+00 -1. 05388D+00 -1. 81582D+00 2. 62575D+00
 19 1. 82433D+01 -4. 13414D+00 -7. 03390D+00 -1. 51526D+00 -1. 87641D+00 7. 30723D-01
 2. 16515D+01 -1. 95266D+00 -7. 94126D+00 -1. 51526D+00 -1. 87641D+00 7. 30723D-01
 2. 21735D+01 -1. 70187D+00 -8. 00726D+00 -1. 51526D+00 -1. 87641D+00 7. 30723D-01
 2. 41778D+01
 20 -4. 89835D+00 4. 16642D+01 -5. 40144D-01 -1. 97136D+00 -6. 49326D+00 4. 36278D+00
 -2. 80643D+00 4. 92759D+01 -5. 89610D+00 -1. 97136D+00 -6. 49326D+00 4. 36278D+00
 -3. 56825D+00 4. 58381D+01 -2. 81830D+00 -1. 97136D+00 -6. 49326D+00 4. 36278D+00
 1. 49608D+00 5. 81958D+01
 21 -8. 31335D+00 -2. 36181D+00 3. 91116D+01 3. 55611D-01 3. 46154D+00 -2. 71586D+00
 -7. 99791D+00 -7. 31271D+00 4. 29619D+01 3. 55611D-01 3. 46154D+00 -2. 71586D+00
 -7. 59007D+00 -5. 37057D+00 4. 11558D+01 3. 55611D-01 3. 46154D+00 -2. 71586D+00
 -1. 01408D+01 -1. 28264D+01 4. 75322D+01
 22 -2. 05293D-01 -8. 32782D-01 -2. 46740D-01 1. 32755D+00 9. 70186D-01 -1. 05388D+00
 -1. 00068D+00 -1. 32041D+00 -3. 82232D-02 1. 32755D+00 9. 70186D-01 -1. 05388D+00
 -1. 25931D+00 -1. 81328D+00 3. 51611D-01 1. 32755D+00 9. 70186D-01 -1. 05388D+00
 -1. 51526D+00 -1. 97136D+00 3. 55611D-01 1. 32755D+00
 2, 3 -8. 66558D+01 -3. 23626D+00 9. 65855D-01 9. 70186D-01 4. 28606D+00 -1. 81582D+00
 -1. 15799D+00 -4. 88556D+00 2. 18305D+00 9. 70186D-01 4. 28606D+00 -1. 81582D+00
 -1. 29593D+00 -5. 78117D+00 3. 05983D+00 9. 70186D-01 4. 28606D+00 -1. 81582D+00
 -1. 87641D+00 -6. 49326D+00 3. 46154D+00 9. 70186D-01 4. 28606D+00
 24 6. 253011D+01 2. 27243D+00 -9. 60373D-01 -1. 05388D+00 -1. 81582D+00 2. 62575D+00
 4. 20478D-01 3. 38383D+00 -1. 86695D+00 -1. 05388D+00 -1. 81582D+00 2. 62575D+00
 3. 84139D+01 3. 85017D+00 -2. 37894D+00 -1. 05388D+00 -1. 81582D+00 2. 62575D+00
 7. 30723D+01 4. 36278D+00 -2. 71586D+00 -1. 05388D+00 -1. 81582D+00 2. 62575D+00
 25 -1. 20715D+01 -4. 53494D+01 1. 91889D+01 3. 43184D+00 1. 08791D+01 -7. 23510D+00
 -1. 37658D+01 -4. 99260D+01 2. 23848D+01 3. 43184D+00 1. 08791D+01 -7. 23510D+00
 -8. 86871D+00 -4. 92507D+01 2. 45907D+01 3. 43184D+00 1. 08791D+01 -7. 23510LHOO
 -1. 55950D+01 -5. 34562D+01 2. 50486D+01 3. 43184D+00 1. 08791D+01 -7. 23510D+00
 3. 72318D+02
 26 4. 72170D+00 8. 19421D-01 -1. 06191D+01 4. 016381>-01 8. 66517D-01 -5. 05071D-01
 4. 50513D+00 -3. 50112D+00 -7. 35845D+00 4. 01638D-01 8. 66517D-01 -5. 05071D-01
 4. 45558D+00 4. 83351D+00 -1. 60612D+01 4. 01638D-01 8. 66517D-01 -5. 05071D-01
 2. 30426D+00 -8. 68268D+00 -3. 15673D+00 4. 01638D-01 8. 66517D-01 -5. 05071D-01
 -6. 65449D+01 1. 53396D+02
 27 -4. 48254D+00 -2. 72421D+01 7. 78555D+00 1. 42689D+00 4. 47207D+00 -2. 96471D+00
 -5. 43827D+00 -2. 65231D+01 7. 07086D+00 1. 42689D+00 4. 47207D+00 -2. 96471D+00
 -3. 27873D+00 -3. 19440D+01 1. 40004D+01 1. 42689D+00 4. 47207D+00 -2. 96471D+00
 -4. 99492D+00 -2. 48835D+01 5. 59053D+00 1. 42689D+00 4. 47207D+00 -2. 96471D+00
 1. 481431x02 -4. 49861D+01 2. 09943P+02
 28 2. 8505D+00 7. 42887D+00 -2. 18075D+00 -2. 32743D+00 -5. 86349D+00 3. 72219D+00
 3. 21218D+00 8. 74203D+00 -3. 16601D+00 -2. 32743D+00 -5. 86349D+00 3. 72219D+00
 2. 81164D+00 9. 11943D+00 -3. 80011D+00 -2. 32743D+00 -5. 86349D+00 3. 72219D+00
 3. 53688D+00 9. 43718D+00 -3. 71187D+00 -2. 32743D+00 -5. 86349D+00 3. 72219D+00
 -1. 90022D+01 -1. 79165D+00 -7. 69060D+00 1. 22507D+01
 29 -3. 52803D+01 -3. 04324D-01 -1. 49444D+01 2. 69184D+01 -1. 65503D-01 -1. 35560D-01
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 -4. 00871D+01 1. 03244D+00 -1. 30118D+00 2. 69184D+01 -1. 65503D-01 -1. 35560D-01
 -6. 27214D+01 9. 98878D+02 -2. 89829D+01 -2. 56333D+01 1. 18773D+00
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 2. 32274D+00 4. 42739D+00 -9. 87455D+01 -1. 33298D+00 -3. 38044D+00 1. 81014D+00
 -1. 01386D+01 -1. 08921D+00 -4. 07338D+00 6. 25315D+00 1. 94308D+03 4. 782781>100
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 -1. 46444D+01 -5. 15230D+01 2. 28387D+01 3. 70130D+00 1. 12665D+01 -7. 41008EHOO
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 6. 52936D+01 3. 06390D+00 7. 99552D+01
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 4. 33786DIO0 2. 68518D+01 7. 71324D+00 -6. 26514D-01 -1. 03220D+00 5. 17806D-01
 -1. 29182D+00 3. 15017D+01
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 5. 41044D+01 1. 10129IH01 4. 80605D+01 -1. 04484D+01 1. 16592D+00 -6. 846931} 100
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 2. 32274D+00 4. 42739D+00 -9. 87455D-01 -1. 33298D+00 -3. 38044D+00 1. 81014DIO0
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 -1. 39798D+01 5. 17806D-01 -6. 84693D+00 6. 25315D+00 1. 94308D-03 4. 78278D+00
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 9.797911>101
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 1.76870D+00 4.56536D+00 -1.50809D+00 -1.00746D+00 -3.48143D+00 1.51727D+00
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 -1.08019D+01 -9.11356D-01 -4.45935D+00 5.99454DIO0 1.92627D-01 3.62045D+00
 -1.26371D+01 -4.16024D-01 -5.582091>00 5.99454D+00 1.92627D-01 3.62045D+00
 8. 11713D+00 -7.41823D+00 1.19431D+01 -5.07690D+00 4.43319D+00 -5.09894D+00
 8.30996D+00 -7.49475D+00 1.21601D+01 -5.07690D+00 4.43319D+00
 54 -2.52121D+00 -6.69499D+00 2.05560D+00 2.43559D+00 5.01593D+00 -3.70331 D+00
 -2.73825D+00 -8. 02109D+00 3.07523D+00 2.43559DIO0 5.01593D+00 -3.70331D+00
 -2.37985D+00 -8.41536D+00 3.70093D+00 2.43559DIO0 5.01593D+00 -3.70331D+00
 -3.05364DIO0 -8.79038D+00 3.70339D+00 2.43559D+00 5.01593D+00 -3.70331D+00
 1.73738D+01 1.59442D+00 7.03804D+00 -9.91304D+00 2.75167D-01 -5.543531}100
 1.82663D+01 1.51298D+00 7.48227D+00 -9.91304D+00 2.75167D-01 -5.54353D+00
 2. 10884D+01 8.44299D-01 9.14136D+00 -9.91304D+00 2.75167D-01 -5.54353D+00
 -1. 29199D+01 1.20847D+01 -1.91327D+01 7.70517D+00 -5.09894D+00 1.04632D+01
 -1.35222D+01 01 1.21976D+01 -1.96914D+01 7.70517D+00 -5.09894D+00 1.04632D+01
 55 1.50256D+01 4.28308D+01 -5.95904D+00 -2.61691D+00 -8.14302D+00 5.38824D+00
 1. 44094D+01 4.73247D+01 -9.60646D+00 -2.61691D+00 -8.)43021 >100 5.38824DIO0
 1.02599D+01 3.82920D+01 -2.61149D+00 -2.61691D+00 -8.14302D+00 5.38824D+00
 1. 537201 HOI 5.05133D+01 -1.24105LwOI -2.61691D+00 -8.14302D+00 5.38824D+00
 -8.90047D+01 -1. 10040D+01 -3.85703D+01 1.59643D+01 -1.21989D-01 9.06399D+00
 -9.17909D+01 -1. 06431 D+01 -4.00346D+01 01 1.59643D+01 -1.21989D-01 9.06399DIO0
 -1.07491D+02 -5.08365D+00 -5.05974D+01 1.59643D+01 -1.21989D-01 9.06399DIO0
 6.97535D+01 -6.52568D+01 7.76205D+02 -1.33473D+01 8.26499D+00 -1.44522 E-101
 7.28193D+01 -6.55837D+01 8.02306D+01 -1.33473D+01 8.26499D+00 -1.44522 D+01
 9.45744D+01
 56 1.32852D-01 -2.93895D+01 -8.23257D+00 3.19433D+00 7.07760DIO0 -4.16818D+00
 -3.04849D+00 -3.46313D+01 -4.89280D+00 3.19433D+00 7.07760D+00 -4.16818D+00
 -1.06883D+00 -2.93344D+01 -9.14562D+00 3.19433D+00 7.07760D+00 -4.16818D+00
 -6.38231D+00 -4.04392D+01 -6.72715D+01 3.19433D+00 7.077601>00 -4.16818D+00
 7.450581 >401 1.46069D+01 3.34727D+01 -1.36032D+01 4.39573D-01 -8.00584D+00
 7.70600D+01 1.41357D+01 3.49171D+01 -1.36032D+01 4.395731>01 -8.00584D+00
 9. 32453D+01 7.31316D+00 4.66004D+01 -1.36032D+01 4.39573D-01 -8.00584D+00
 -5.82401D+01 7.68340D+01 -6.74765D+01 1.04089D+01 -7.51687D+00 1.21742D+01
 -5.944051>101 7.71716D+01 -6.869631 }101 1.04089D+01 -7.51687D+00 1.217421>}01
 -7.131141 HOI 8.23860D+01

57 2.44224D+01 3.53644D+01 -1 .90175D+01 -4.61597D+00 -1.14868D+01 7.08294D+00
 2.68669D+01 4.24849D+01 -2.40116D+01 -4.61597D+00 -1.14868D+01 7.08294D+00
 2.22449D+01 3.17138D+01 -1.55831D+01 -4.61597D+00 -1.14868D+01 7.08294D+00
 3.02027D+01 4.91116D+01 -2.90906D+01 -4.61597D+00 -1.14868D+01 7.08294D+00
 -1 .26512D+02 -9.23049D+00 -4.62717D+01 2.26675D+01 -6.45133D-01 1.32671D+01
 -1 .30706D+02 -8.48614D+00 -4.86220D+01 2.26675D+01 -6.45133D-01 1.32671D+01
 -1 .56524D+02 2.06680D+00 -6.70165D+01 2.26675D+01 -6.45133D-01 1.32671D+01
 7.38316D+01 -7.33274D+01 1.59921D+02 -1 .80515D+01 1.21317D+01 -2.03502D+01
 7.69146D+01 -7.38395D+01 1.62718D+02 -1 .80515D+01 1.21317D+01 -2.03502D+01
 1 .01640D+02 -8.22260D+01 1.887021X02
 58 -2.64554D+00 -6.59613D+00 2.42736D+00 1 .82770D+00 4.94079D+00 -2.71508D+00
 -2.21166D+00 -7.42169D+00 3.20422D+00 1 .82770D+00 4.94079D+00 -2.71508D+00
 -1 .55233D+00 -7.30611D+00 3.44847D+00 1 .82770D+00 4.94079D+00 -2.71508D+00
 -2.02166D+00 -7.46580D+00 3.35622D+00 1 .82770D+00 4.94079D+00 -2.71508D+00
 1 .55704D+01 1.38996D+00 6.26375D+00 -8.64541D+00 2.94726D-02 -5.10112 [>100]
 1 .63335D+01 1.32712D+00 6.63951D+00 -8.64541D+00 2.94726D-02 -5.101 I2LHOO
 1 .86081D+01 8.79967D-01 7.90967D+00 -8.64541D+00 2.94726D-02 -5.10112LHOO
 -1 .08411D+01 1.03971D+01 -1 .61667D+01 7.7104 ILHOO -5.07690D+00 7.70517D+00
 -1 .16259D+01 1.04834D+01 -1 .68374D+01 7.71041DIOO -5.07690D+00 7.70517D+00
 -1 .334731 HO] 1.04089D+01 -1 .80515D+01 7.71041IHOO
 59 1 .21673D+00 3.53667D+00 -8.13989D-01 -1 .00746D+00 -3.48143D+00 1 .51727D+00
 1.76870D+00 4.56536LHOO -1.50809D+00 -1.00746D+00 -3.48143D+00 1.51727D+00
 1.79161D+00 5.12351D+00 -2.09666D+00 -1.00746D+00 -3.48143D+00 1.51727D+00
 2.27701D+00 5.46043D+00 -2.16019D+00 -1.00746D+00 -3.48143D+00 1.51727D+00
 -1.02519D+01 -9.66132D-01 -4.18236D+00 5.99454D+00 1.92627D-01 3.62045D+00
 -1.08017D+01 -9.11356D-01 -4.45935D+00 5.99454D+00 1.92627D-01 3.62045D+00
 -1.26371D+01 -4.16024D-01 -5.58209D+00 5.99454D+00 1.92627D-01 3.62045D+00
 8.11713D+00 -7.41823D+00 1.19431D+01 -5.07690D+00 4.43319D+00 -5.09894D+00
 8.30996D+00 -7.49475D+00 1.21601D+01 -5.07690D+00 4.43319D+00 -5.09894D+00
 8.26499D+00 -7.51687D+00 1.21317D+01 -5.07690D+00 4.43319D+00
 60 -2.52121D+00 -6.69499D+00 2.05560D+00 2.43559D+00 5.01593D+00 -3.70331D+00
 -2.73825D+00 -8.02109DIOO 3.07523D+00 2.43559D+00 5.015931>100 -3.70331D+00
 -2.37985D+00 -8.41536D+00 3.70093D+00 2.43559D+00 5.01593D+00 -3.70331D+00
 -3.05364D+00 -8.79038D+00 3.70339LHOO 2.43559D+00 5.01593D+00 -3.70331D+00
 1.73738D+01 1.59442D+00 7.03804D+00 -9.91304D+00 2.75167D-01 -5.54353D+00
 1.82663D+01 1.51298D+00 7.48227D+00 -9.91304D+00 2.75167D-01 -5.54353D+00
 2.1 0884D+01 8.442991>01 9.14136D+00 -9.91304D+00 2.75167D-01 -5.54353D100
 -1.29199D+01 1.20 847D+01 -1.91327D+01 7.70517D+00 -5.09894D+00 1.04632D+01
 -1.352221> 101 1.21976D+01 -1.96914D+01 7.70517D+00 -5.09894D+00 1.04632D+01
 -1.44522D+01 1.21742D+01 -2.03502D+01 7.70517 D+00 -5.09894DIOO 1.04632D+01

Summary description of terrestrial system for JPL 1993-1 station coordinates

- | | |
|------------------------------------|--|
| 1 - Technique | VLBI |
| 2 - Analysis Center | JPL |
| 3 - Solution identifier | 1993-1 |
| 4 - Software used | MODEST (nee Masterfit) |
| 5 - Relativity scale | LE (TDT = geocentric with IAT) |
| 6 - Permanent tidal correction | No |
| 7 - Tectonic plate model | ITRF-91 plus adjustments |
| 8 - Velocity of light | 299 792 458 m/s |
| 9 - Geogravitational constant | 3.9860 0448 *10**14 m**3*s**-2 |
| 10 - Reference epoch | 1 Jan 1988 |
| 11 - Adjusted parameters | x ₀ , y ₀ , z ₀ , ẋ, ẏ, ż |
| 12 - Definition of the origin, and | |
| 13 - Definition of the orientation | Six constraints were applied (with 5 mm uncertainty) to the nine coordinates (at epoch 1988.0) of DSS 15, DSS 45, and DSS 65, such that if a seven parameter transformation (3 translations, 3 rotations, 1 scale) between the JPL 1993-1 and ITRF-91 systems were estimated by unweighted least squares applied to the coordinates of DSS 15, 45, and 65, then the resulting 3 translation and 3 rotation parts of the transformation would be zero while the scale could be nonzero and unknown in advance of computing the catalog. See text for details. |
| 14 - Constraint for time evolution | Six constraints were applied (with 1.0 mm/yr uncertainty) to the nine site-velocity parameters of the DSN network so as to yield no-net-translation-rate and no-net-rotation-rate with respect to the net motion of the three sites Madrid, Goldstone, and Canberra as specified by the ITRF-91 velocity field. See text for details. |

DEEP SPACE NETWORK VLBI RADIO SOURCE POSITIONS FROM REFERENCE FRAME JPL 1993-1 IN THE IERS 1993 FORMAT

IAU name	Alt.	name	Right	Ascension	Declination	RA error	Dec error	Corr.	Mean	First	Last	No.	Delay	Rate
			hr	mn sec	dg mn arc sec	time sec	arc sec	RA-Dec	MJD	MJD	Sns	Obs	Obs	
0003-066	0003-066		0 6 13.89290127	- 6 23 35.3336604	0.00001243	0.0002575	-0.4594	48658.8	48196.0	48983.0	28	62	62	
0007+171 GC	0007+17		0 10 33.99065445	17 24 18.7620039	0.00001469	0.0003037	-0.3582	48736.6	48196.0	48983.0	10	18	18	
0008-264	P 000	B-264	0 11 1.24683342	-26 12 33.3762208	0.00006484	0.0007826	-0.8850	46063.4	44227.0	48196.	0	20	42	
0013-005	P 0013	-00	0 16 11.08857260	- 0 15 12.4443205	0.00001845	0.0003237	-0.7134	48236.7	47381.0	48942.0	16	35	35	
0014+813	0014+813		0 17 8.47512733	81 35 8.1358909	0.00009123	0.0001661	0.1263	48607.3	48352.0	48732.0	5	14	14	
0016+731	0016+731		0 19 45.78646174	73 27 30.0170972	0.00003912	0.0001423	0.0459	40578.7	46158.0	48939.0	23	54	54	
0019+058 P 0019+058			0 22 32.44123352	6 8 4.2700545	0.00001564	0.0002905	-0.6117	46630.2	45151.0	48942.0	32	69	69	
0048-097	P 0048-09		0 50 41.31739629	- 9 29 5.2089515	0.00001370	0.0002653	-0.5372	48428.6	46609.0	48980.0	52	92	92	
0104-408	P 0104-408		1 6 45.10811311	-40 34 19.9590099	0.00003609	0.0003729	-0.5204	47493.9	43909.0	48966.0	83	205	206	
0106+013	P 0106+01		1 S 3S.77112851	1 35 0.3170747	0.00000973	0.0001920	-0.3471	46569.5	43809.0	48983.0	157	332	333	
0111+021 P 0111+021			1 13 43.14496373	2 22 17.3172465	0.00002630	0.0004164	-0.8690	46714.7	44227.0	48942.0	28	63	63	
0112-017	P 0112-017		1 15 17.0999463	- 1 27 4.5765305	0.00001001	0.0002022	-0.3831	48317.2	47254.0	48983.0	51	104	104	
0113-118	P 0113-118		1 16 12.52200200	-11 36 15.4324309	0.00001314	0.0002686	-0.5052	47082.7	43809.0	48983.0	69	110	114	
0119+115 P 0119+11			1 21 41.59506722	11 49 50.4134004	0.00000940	0.0001758	-0.2409	48300.5	47254.0	48984.	0	38	80	
0119+041 GC 0119+04			1 21 56.86171920	4 22 24.7351992	0.00001060	0.0002068	-0.4208	47774.6	45476.0	48983.0	32	61	61	
0133+476	DA 55		1 36 58.59481607	47 51 29.0998847	0.00001539	0.0001512	0.0352	46934.0	43873.0	48983.0	150	268	271	
0146+056 0146+056			1 49 22.37090008	5 55 53.5697301	0.00002419	0.0003707	-0.8644	47965.7	47254.0	48704.0	14	33	33	
0149+218 P 0149+21			1 52 18.05905195	22 7 7.7002746	0.00001104	0.0001561	-0.3201	48393.4	47301.0	48984.0	29	60	60	
0159+723	0159+723		2 3 33.38500368	72 32 53.6670147	0.00005010	0.0001881	-0.0670	48788.5	48352.0	48983.0	7	22	22	
0201+113	P 0201+113		2 3 46.65709001	11 34 45.4099983	0.00001048	0.0001739	-0.4637	48122.4	45432.0	40942.0	36	73	73	
0202+149	P 0202+14		2 4 50.41392768	15 14 11.0434450	0.00000923	0.0001325	-0.2893	47284.6	44203.0	48984.0	107	219	220	
0202+319	DW 0202+31		2 5 4.92536513	32 12 30.0957222	0.00001376	0.0001720	-0.2994	48540.1	48196.0	48942.0	16	32	32	
0212+735	0212+735		2 17 30.81335371	73 49 32.6214365	0.00003760	0.0001269	-0.0885	47497.4	45301.0	49004.0	235	512	515	
0221+067	GC 0221+06		2 24 28.42820670	6 59 23.3421090	0.000010B7	0.0001838	-0.5477	4S457.9	47254.0	48984.0	31	64	64	
0224+671 DW 0224+67			2 28 50.05150961	67 21 3.0291958	0.00003109	0.0002015	-0.1384	47213.8	44203.0	49004.0	204	322	337	
0229+131 P 0229+13			2 31 45.89408033	13 22 54.7162886	0.00000907	0.0001414	-0.3755	48386.3	47254.0	48984.	0	46	98	
0234+285 CTD 20			2 37 52.40568886	28 48 8.9899700	0.000009%4	0.0001079	-0.0725	47274.1	44203.0	49000.0	276	668	668	
0235+164	GC 0235+16		2 38 38.93013597	16 36 59.2746870	0.000008S9	0.0001136	-0.3520	47236.2	44203.0	49000.0	211	436	438	
0237+040	GC 0237+04		2 39 51.26306584	4 16 21.4124352	0.00001370	0.0002598	-0.6570	48357.0	47941.0	48942.0	10	18	18	
0237-233	P 0237-23		2 40 8.17553096	-23 9 15.7416717	0.00011326	0.0013677	-0.9628	47351.4	44227.0	46942.0	6	10	10	
0239+108	OD 166		2 42 29.17087606	11 1 0.7283406	0.00000920	0.0001519	-0.4369	47347.4	45151.0	48984.0	63	144	144	
0250+178	GC 0250+17		2 53 34.08221947	18 5 42.5255219	0.00004028	0.0010557	-0.5780	47773.9	47714.0	47798.0	4	12	12	
0256+075	OD 094.7		2 59 27.07663864	7 47 39.6440043	0.00001967	0.0003279	-0.8168	46798.9	45151.0	48723.0	29	55	55	
0259+121	0259+121		3 2 30.54683075	12 18 56.7493687	0.00001818	0.0004651	-0.5550	48656.5	46925.0	48984.0	9	20	20	
0300+470	OE 400		3 3 35.24221847	47 16 16.2752627	0.00001442	0.0001325	-0.1421	46977.3	43808.	49004.0	239	434	434	
0302+625	0302+625		3 6 42.65953429	62 43 2.0238945	0.00002979	0.0002027	-0.243S	4S784.8	48613.0	48983.0	10	33	33	
0306+102 0306+102			3 9 3.62353503	10 29 16.3412857	0.000017S4	0.0002691	-0.8373	48147.0	47254.0	48942.0	18	38	38	
0309+411	0309+411		3 13 1.96212893	41 20 1.1833577	0.00001423	0.0001815	-0.2745	48206.5	46610.0	48942.0	20	45	45	
0316+413	3c 84		3 19 48.16014963	41 30 42.1044561	0.00001427	0.0002048	-0.2259	47052.4	44203.0	48983.0	40	62	64	
0317+188 P 0317+188			3 19 51.25672705	19 1 31.2912091	0.00002250	0.0004232	-0.7419	47951.9	47714.0	48942.0	5	13	13	
0326+277	0326+277		3 29 57.66942530	27 56 15.4990460	0.00001765	0.0002306	-0.7235	48126.7	46610.0	48942.0	16	30	30	
0332-403	P 0332-403		3 34 13.65466722	-40 8 25.3968074	0.00004842	0.0004226	-0.6757	46625.8	43809.0	48966.0	47	76	70	
0333+321	NRAO 140		3 36 30.10761061	32 18 29.3421682	0.00001242	0.0001521	-0.4284	46132.7	43808.0	48983.0	95	167	170	
0336-019	CTA 26		3 39 30.93783189	- 1 46 35.8034328	0.00001023	0.0002469	-0.5037	46989.7	44203.0	49000.0	70	111	121	
0341+158 0341+158			3 44 23.17220977	15 59 43.3696557	0.00001550	0.0004525	-0.4902	48575.8	47393.0	48983.0	8	19	19	
0342+147 0342+147			3 45 6.41656687	14 53 49.5581754	0.00001829	0.0002866	-0.8365	47643.5	46337.0	48942.0	22	47	47	
0400+258	CTD 26		4 3 5.58607346	26 0 1.5026420	0.00001160	0.0001886	-0.5171	48355.3	44947.0	48983.0	21	40	40	
0402-362	P 0402-362		4 3 53.75000183	-36 5 1.9118758	0.00002876	0.0003418	-0.5674	47211.2	43873.0	48980.0	109	192	189	
0406-127	0406-127		4 9 5.76973443	-12 38 48.1425961	0.00002537	0.0004060	-0.8311	48227.2	46797.0	48942.0	15	25	25	
0406+121 GC 0406+12			4 9 22.00873274	12 17 39.8477931	0.00001821	0.0002851	-0.8609	46359.5	44203.0	4S942.0	69	123	131	
0409+229	P 0409+22		4 12 43.66067832	23 5 5.4535407	0.00002441	0.0005067	-0.5462	47768.4	47714.0	47798.0	4	13	13	
0420-014	P 0420-01		4 23 15.80076025	- 1 20 33.0648800	0.00000854	0.0001719	-0.5536	47305.7	43873.0	49000.0	282	704	704	
0420+417	VRO 41.04.01		4 23 56.00978845	41 50 2.7128393	0.00002057	0.0006415	0.2737	45701.0	44203.0	48355.0	12	18	19	
0423+233	GC 0423+23		4 26 55.73479798	23 27 39.6340320	0.00001985	0.0004483	-0.5735	47767.0	47714.0	47798.0	4	12	12	
0425+048	P 0425+048		4 27 47.57038179	4 57 8.3284699	0.000009191	0.0013804	-0.9901	47374.5	46609.0	48723.0	16	34	34	
0426+273	0426+273		4 29 52.96078997	27 24 37.8766793	0.00002345	0.0005154	-0.5058	47769.5	47714.0	47798.0	4	14	14	
0430+052	3C 120		4 33 11.09560260	5 21 15.6193561	0.00001161	0.0002343	-0.6626	46856.4	43808.0	48983.0	34	7(1)	70	

0434-188	P	0434-100	4	37	1.48277793	-18	44	48	6125686	0.00001352	0.0002594	-0.5608	47423.2	44227.0	49000.0	129	218	224	
0438-436	P	0438-43	4	40	17.17998834	-43	33	8.	6016436	0.00009086	0.0006302	-0.8007	45681.7	43809.0	48875.0	28	47	48	
0440-003	NRAO	190	4	42	38.66080216	-0	17	43.	4198600	0.00005579	0.0010697	-0.7794	45435.0	43873.0	48206.0	10	16	16	
0440+345	0440+345		4	43	31.63522710	34	41	6.	6632793	0.00002269	0.0002987	-0.6912	48037.1	46757.0	48942.0	15	24	24	
0446+112	P	0446+11	4	49	7.67111296	11	21	28.	5966757	0.00001657	0.0003506	-0.6482	47579.7	47255.0	48355.0	12	22	22	
0451-282	P	0451-28	4	53	14.64694457	-28	7	37.	3273890	0.00005448	0.0006836	-0.9079	46940.0	44227.0	48927.0	23	34	38	
0454-234	0454-234		4	57	3.17930311	-23	24	52.	0191678	0.00002242	0.0003436	-0.7201	48650.6	48158.0	46984.0	21	48	48	
0458-020	P	0458-02	5	1	12.809191203	-1	59	14.	2556367	0.00001264	0.0002332	-0.7424	48639.3	47802.0	48984. 0	25	46	46	
0458+138	P	0458+138	5	1	45.27084908	13	56	7.	2203508	0.00003534	0.0005336	-0.9128	47873.5	46757.0	48723.0	15	22	22	
0459+060	GC	0459+06	5	2	15.44594924	6	9	7.	4944023	0.00004319	0.0006721	-0.9213	47790.4	47379.0	48206.0	8	13	13	
0500+019	0500+019		5	3	21.19716950	2	3	4.	6773933	0.00002302	0.0003797	-0.8851	47933.8	47255.0	48704.0	14	27	27	
0502+049	P	0502+049	5	5	23.18485167	4	59	42.	7235725	0.00008634	0.0012732	-0.9857	47710.5	47379.0	48092.0	10	17	17	
0454+844	0454+844		5	8	42.36324698	84	32	4.	5436235	0.00009488	0.0001478	-0.1444	47553.9	45301.0	48903.0	42	147	147	
0506+101	P	0506+101	5	9	27.45709916	10	11	44.	6002675	0.00001036	0.0002075	-0.6795	48267.8	46757.0	48983.0	34	59	59	
0507+179	P	0507+17	5	10	2.36916066	18	0	41.	5815731	0.00002024	0.0003204	-0.8348	47517.6	46336.0	48942.0	20	37	37	
0511-220	P	0511-220	5	13	49.11434320	-21	59	16.	0907346	0.00003316	0.0004675	-0.7977	47870.1	46797.0	48206.0	11	17	17	
0528+134	P	0528+134	5	30	56.41674763	13	31	55.	1497079	0.00000712	0.0001402	-0.6164	47106.2	44203.0	48984.0	115	234	236	
0537-441	P	0537-441	5	38	50.36160032	-44	5	8.	9370941	0.00005072	0.0004228	-0.6798	46883.8	43809.0	48980.0	93	191	185	
0537-158	P	0537-158	5	39	32.01020135	-15	50	30.	3197843	0.00003796	0.0009845	-0.6433	47787.7	46806.0	48348.0	8	10	10	
0536+145	0536+145		5	39	42.36601170	14	33	45.	5619898	0.00001039	0.0001812	-0.7543	48172.6	46609.0	48984.0	38	73	73	
0544+273	0544+273		5	47	34.14892481	27	21	56.	8423361	0.00002526	0.0003348	-0.8055	47638.5	46609.0	48941.0	21	34	34	
0552+398	DA	193	5	55	30.80558253	39	48	49.	1647357	0.00000901	0.0001164	-0.4316	47394.4	43808.0	49000.0	384	994	998	
0556+238	0556+238		5	59	32.03314340	23	53	53.	9266315	0.00001020	0.0001723	-0.6663	47937.9	46610.0	48941.0	35	66	66	
0600+177	0600+177		6	3	9.13028915	17	42	16.	8106994	0.00002088	0.0003041	-0.9115	47	837.5	46336.0	48941.0	30	56	56
0605-005	P	0605-08	6	7	59.69926579	-8	34	49.	9774207	0.00001161	0.0002571	-0.5779	47010.7	43808.0	48903.0	32	54	55	
0607-157	P	0607-15	6	9	40.94955159	-15	42	40.	6714532	0.00001971	0.0003415	-0.7218	47412.2	43873.0	48983.0	22	36	37	
0611+131	0611+131		6	13	57.69277895	13	6	45.	4019404	0.00001318	0.0002767	-0.7024	48001.9	47379.0	48437.0	13	23	23	
0615+820	0615+820		6	26	3.00589493	82	2	25.	5672766	0.00007806	0.0001698	-0.0740	48594.1	48352. 0	48709.0	8	24	24	
0642+214	3c	166	6	45	24.09953257	21	21	51.	2015063	0.00001970	0.0002905	-0.8586	48039.7	46658.0	48941.0	19	33	33	
0650+371	0650+371		6	53	58.28283680	37	5	40.	6061707	0.00000903	0.0001782	-0.3683	48646.7	48348.0	48984.0	26	67	67	
0657+172	0657+172		7	0	1.52554355	17	9	21.	7019366	0.00000752	0.0001501	-0.7043	48241.8	46336.0	48984.0	47	100	100	
0710+439	01	417	7	13	38.16404214	43	49	17.	2001823	0.00001576	0.0003156	-0.0624	48738.2	48352.0	48984.0	10	16	16	
0716+714	0716+714		7	21	53.44836218	71	20	36.	3629986	0.00003194	0.0001911	-0.1305	48763.6	48353.0	48983.0	8	26	26	
0722+145	P	0722+145	7	25	16.80780411	14	25	13.	7462166	0.00001611	0.0002969	-0.7435	47636.1	47253.0	48352.0	12	21	21	
0723-008	DW	0723-00	7	25	50.63996484	-0	54	56.	5441951	0.00004273	0.0007416	-0.8772	45565.9	44203.0	46806.0	32	84	84	
0727-115	P	0727-11	7	30	19.11250652	-11	41	12.	5995752	0.00000992	0.0002002	-0.5134	47465.7	43808.0	49000.0	329	862	861	
0735+178	P	0735+17	7	38	7.39375080	17	42	18.	9986320	0.00000534	0.0001191	-0.6543	47632.5	43808.0	48983.0	96	220	220	
0736+017	P	0736+01	7	39	18.03391706	1	37	4.	6186697	0.00001125	0.0002193	-0.7307	48284.2	47253.0	48927.0	22	47	47	
073	8+313	01	7	41	10.70328400	31	12	0.	2283439	0.00001441	0.0002980	-0.4355	46809.8	43816.0	48732.0	14	26	26	
0742+103	DW	0742+10	7	45	33.05957103	10	11	12.	6921238	0.00001107	0.0002038	-0.7987	46474.7	43808.0	48983.0	176	368	379	
0743-006	P	0743-006	7	45	54.08233700	-0	44	17.	5398068	0.00002598	0.0004616	-0.8407	48627.8	48352.0	48941.0	7	12	12	
0743+259	GC	0743+25	7	46	25.87414697	25	49	2.	1350302	0.00002129	0.0003920	-0.6820	47550.3	47253.0	48159. 0	11	22	22	
0745+241	B2	0745+24	7	48	36.10926100	24	0	24.	1105585	0.00000945	0.0001867	-0.6326	47154.1	45431.0	46983.0	34	85	85	
0748+126	P	0748+126	7	50	52.04577721	12	31	4.	8276455	0.00003052	0.0005927	-0.7364	45514.9	44203.0	47379.0	29	68	68	
0749+540	0749+540		7	53	1.38450380	53	52	59.	6365478	0.00001501	0.0002533	-0.0636	48669.0	48353.0	48732.0	8	18	18	
0754+100	P	0754+100	7	57	6.64296210	9	56	34.	8514207	0.00002080	0.0004022	-0.7507	47606.8	47253.0	48159.0	10	18	18	
0805-077	P	0805-07	8	8	15.53605996	-7	51	9.	8853190	0.00001053	0.0002208	-0.5595	48439.3	46797.0	48948.0	24	61	61	
0808+019	P	0808+019	8	11	26.70733386	1	46	52.	2210768	0.00001072	0.0003047	-0.5562	48823.8	48352.0	48983.0	9	17	17	
0814+425	OJ	425	8	18	15.99957357	42	22	45.	4146640	0.00001076	0.0001570	-0.3175	46989.2	43808.0	48984.0	122	212	213	
0823+033	P	0823+033	8	25	50.33837540	3	9	24.	5209654	0.00000633	0.0001377	-0.5623	47453.1	44200.0	48997.0	203	395	403	
0827+243	B2	0827+24	8	30	52.08614727	24	10	59.	8211525	0.00002700	0.0003927	-0.8470	46041.3	44200.0	47776.0	12	21	21	
0828+493	OJ	448	8	32	23.21665296	49	13	21.	0376795	0.00001680	0.0003656	-0.0280	48847.2	48352. 0	48983.0	5	14	14	
0833+585	0833+585		8	37	22.40971479	58	25	1.8450605	0.00004122	0.0004155	0.3282	48630.5	48353.0	48708.0	6	11	11		
0836+710	4C	71.07	8	41	24.36541140	70	53	42.	1724661	0.00031485	0.0017589	0.2202	44700.7	44202.0	45916.0	11	18	20	
0851+202	OJ	287	8	54	48.87491300	20	6	30.	6414000	0.00000690	0.0001306	-0.4571	47323.3	43808.0	48997.0	333	732	730	
0859-140	P	0859-14	9	2	16.83092646	-14	15	30.	8736977	0.00001833	0.0003080	-0.6969	47537.8	43808.0	48983. 0	2			

1004+141	GC	1004+14	10	7	41.	49806426	13	56	29.	6027422	0.00002142	0.0004007	-0.8255	45783.3	44200.0	48159.0	11	24	24	
1011+250	1011+250		10	13	53.	42870941	24	49	16.	4420519	0.00000	844	0.0003368	-0.3606	48846.4	48353.0	48903.0	9	18	18
1012+232	1012+232		10	14	47.	06544317	23	1	16.	5712241	0.00002799	0.0004014	-0.9038	47794.9	47253.0	48703.0	13	29	29	
1022+194	GC	1022+19	10	24	44.	80959741	19	12	20.	4160910	0.00001545	0.0003203	-0.6291	47885.7	47379.0	48161.0	10	16	16	
1034-293	P	1034-293	10	37	16.	07986373	-29	34	2.	8119773	0.00002779	0.0003318	-0.6132	47447.4	44200.0	48972.0	168	299	300	
1038+064	OL	064.5	10	41	17.	16251886	6	10	16.	9246103	0.00001264	0.0002662	-0.6580	46510.9	44203.0	48927.0	35	88	88	
1040+123	3C	245	10	42	44.	60524598	12	3	31.	2639629	0.00001840	0.0004499	-0.6552	46259.7	44200.0	48161.0	10	15	15	
1039+811	1039+811		10	44	23.	06230155	80	54	39.	4432367	0.00006175	0.0001397	0.0924	48722.8	40353.0	48983.0	14	43	43	
1042+071	P	1042+071	10	44	55.	91126094	6	55	38.	2640411	0.00001884	0.0004511	-0.6356	47794.2	47253.0	48353.0	10	18	18	
1044+719	1044+719		10	48	27.	61976959	71	43	35.	9386756	0.00003664	0.0002691	-0.0613	48337.2	46925.0	48968.0	31	45	45	
1055+018	P	1055+01	10	58	29.	60523289	1	33	58.	8249199	0.00000717	0.0001609	-0.4360	47482.2	44200.0	48957.0	o	251	567	
1104-445	P	1104-445	11	7	8.	69436511	-44	49	7.	6171571	0.00005506	0.0003940	-0.5964	47433.1	43808.0	49000.0	133	199	204	
1111+149	GC	1111+14	11	13	58.	69511609	14	42	26.	9533581	0.00002515	0.0004141	-0.8587	46180.4	44200.0	48102.0	11	25	25	
1116+128	P	1116+12	11	18	57.	30144555	12	34	41.	7190442	0.00000895	0.0002196	-0.5594	48196.7	44250.0	48983.0	20	38	38	
1123+264	P	1123+26	11	25	53.	71193252	26	10	19.	9789368	0.00000577	0.0001469	-0.4329	47298.6	44200.0	48983.0	90	240	240	
1124-186	P	1124-186	11	27	4.	39243538	-18	57	17.	4391157	0.00003300	0.0005192	-0.7589	46674.6	48695.0	48948.0	o	7	12	
1127-145	P	1127-14	11	30	7.	05268183	-14	49	27.	3872295	0.00001445	0.0002920	-0.4354	46621.2	43808.0	48941.0	59	97	101	
1128+385	GC	1128+38	11	30	53.	28259213	38	15	18.	5468215	0.00002484	0.0003034	-0.4937	46295.8	44283.0	48785.0	45	97	98	
1144+402	1144+402		11	46	58.	29788448	39	58	34.	3047242	0.00001184	0.0002659	-0.1404	48552.7	48102.0	48941.0	9	15	15	
1144-379	P	1144-379	11	47	1.	37078408	-38	12	11.	0218703	0.00003076	0.0003176	-0.3759	47215.8	43808.0	48972.0	171	325	325	
1145-071	1145-071		11	47	51.	55404056	-7	24	41.	1382724	0.00001860	0.0003886	-0.6386	47824.9	47379.0	48161.0	13	23	23	
1140-001	P	1148-00	11	50	43.	87080973	-0	23	54.	2028812	0.00002138	0.0004898	-0.6603	46053.2	43808.0	48353.0	21	31	32	
1150+812	1150+812		11	53	12.	49901209	80	58	29.	1550145	0.00006277	0.0001359	0.0394	48518.8	48161.0	48732.0	11	51	51	
1156-094	P	1156-094	11	59	12.	71258200	-9	40	52.	0583830	0.00034921	0.0047593	-0.9971	47464.5	46797.0	48695.0	8	12	12	
1156+295	GC	1156+29	11	59	31.	83389345	29	14	43.	8272770	0.00000667	0.0001744	-0.3683	48678.8	48161.0	48983.0	28	63	63	
1219+285	ON	231	12	21	31.	69049104	28	13	58.	5004085	0.00000962	0.0002444	-0.4512	48544.2	48161.0	48941.0	15	30	30	
1222+037	P	1222+037	12	24	52.	42193347	3	30	50.	2946325	0.00003250	0.0006261	-0.7886	45650.	S	44200.0	48092.0	34	62	63
1226+023	3C	273	12	29	6.	69982058	2	3	8.	5998083	0.00000779	0.0001949	-0.3700	46891.3	43808.0	48983.0	166	384	383	
1228+126	3C	274	12	30	49.	42349211	12	23	28.	0437168	0.00013071	0.0017933	-0.9874	45363.1	44200.0	48160.0	9	17	17	
1243-072	1243-072		12	46	4.	23215345	-7	30	46.	5727376	0.00001783	0.0003822	-0.5949	47884.7	47253.0	48161.0	11	22	22	
1244-255	P	1244-255	12	46	46.	80215611	-25	47	49.	2872922	0.00002415	0.0003363	-0.5159	47339.1	44200.0	48944.0	119	210	209	
1252+119	P	1252+11	12	54	38.	25562090	11	41	5.	8958493	0.00001285	0.0004272	-0.4396	48845.4	48353.0	48983.0	7	19	19	
1253-055	3c	279	12	56	11.	16659065	-5	47	21.	5229003	0.00001014	0.0002500	-0.3431	47233.6	43808.0	48983.0	124	220	222	
1302-102	P	1302-102	13	5	33.	01506535	-10	33	19.	4261898	0.00001424	0.0003035	-0.4682	48342.2	47379.0	48983.0	o	25	55	
1308+326	B2	1308+32	13	10	28.	66384161	32	20	43.	7834100	0.00000651	0.0001715	-0.2545	47419.4	44200.0	48983.0	201	508	509	
1313-333	OP-322		13	16	7.	98610944	-33	38	59.	1709298	0.00003484	0.0003841	-0.5449	47166.7	43808.0	48941.0	42	94	94	
1315+346	OP	326	13	17	36.	49418289	34	25	15.	9328844	0.00001145	0.0002616	-0.2401	48287.8	47946.0	40941.0	12	29	29	
1324+224	1324+224		13	27	0.86132381	22	10	50.	1635283	0.00000753	0.0001998	-0.3917	48713.3	48428.0	4S983.0	25	73	73		
1334-127	DW	1335-12	13	37	39.	78283681	-12	57	24.	6914565	0.00001182	0.0002626	-0.2736	47532.8	43816.0	48983.0	209	419	419	
1342+662	GC	1342+662	13	43	45.	95950886	66	2	25.	7454377	0.00007248	0.0004921	-0.0720	45644.8	45301.0	47782.0	10	35	35	
1342+663	GC	1342+663	13	44	8.	67964993	66	6	11.	6442798	0.00002475	0.0001573	0.0390	46487.5	44263.0	48709.0	68	208	209	
1349-439	P	1349-439	13	52	56.	53511231	-44	12	40.	3854355	0.00009161	0.0006304	-0.7854	46987.1	44265.0	48941.0	42	64	64	
1354+195	P	1354+19	13	57	4.	43666130	19	19	7.	3732634	0.00000702	0.0001985	-0.3379	47164.4	44200.0	48983.0	88	239	239	
1354-152	OP-192		13	57	11.	24507907	-15	27	28.	7855007	0.00002287	0.0003778	-0.6471	48143.7	47253.0	48941.0	25	48	48	
1404+286	OQ	208	14	7	0.	39441418	28	27	14.	6910360	0.00001781	0.0003026	-0.6679	48068.9	47247.0	48941.0	17	41	41	
1406-076	P	1406-076	14	8	56.	48124031	-7	52	26.	6646723	0.00002181	0.0003912	-0.6840	48235.5	47379.0	48941.0	17	26	26	
1413+135	P	1413+135	14	15	56.	81752239	13	20	23.	7138568	0.00001154	0.0002981	-0.4434	48798.3	48353.0	48983.0	12	29	29	
1418+546	GC	1418+54	14	19	46.	59734441	54	23	14.	7676393	0.00001673	0.0002740	-0.1288	47099.1	44282.0	49004.0	157	301	304	
1424-418	P	1424-41	14	27	56.	29778196	-42	6	19.	4360135	0.00005912	0.0004536	-0.5991	48610.2	47940.0	48941.0	16	36	36	
1430-178	OQ-151		14	32	57.	69064658	-18	1	35.	2464297	0.00003986	0.0005948	-0.8161	46728.0	44227.0	48723.0	20	37	37	
1435-218	P	1435-218	14	38	9.	469500505	-22	4	54.	7462645	0.00002586	0.0004203	-0.5822	48683.3	48161.0	48948.0	17	29	29	
1443-162	1443-162		14	45	53.	37634519	-16	29	1.	6168809	0.00002800	0.0004543	-0.7137	48325.1	47379.0	48703.0	13	27	27	
1445-161	P	1445-16	14	48	15.	05421659	-16	20	24.	5471923	0.00002450	0.0004112	-0.6578	48283.6	47379.0	48723.0	17	36	36	
1502+106	OR	103	15	4	24.	97980852	10	29	39.	1996082	0.00000803	0.0002206	-0.2638	46858.9	43808.0	49983.0	106	279	280	
1504+377	1504+377		15	6	9.	52995580	37	30	51.	132787										

1604-333	P	1604-333	16	7	34.76245368	-33	31	8.9111725	0.00006721	0.0006831	-0.8218	48680.3	48393.0	48941.0	7	15	15
1606+106	P	1606+10	16	8	46.20322331	10	29	7.7765536	0.00001641	0.0003193	-0.6110	48517.0	48102.0	48703.0	10	23	23
1611+343	DA	406	16	13	41.06426076	34	12	47.9094014	0.00000826	0.0002303	-0.0561	46885.3	43809.0	40975.0	61	161	162
1614+051	P	1614+051	16	16	37.55686364	4	59	32.7372064	0.00001459	0.0003728	-0.4457	47626.5	46659.0	40353.0	11	19	19
1622-253	P	1622-253	16	25	46.89178047	-25	27	38.3248254	0.00005985	0.0007353	-0.8632	48615.2	48345.0	46941.0	8	14	14
1624+416	1624+416		16	25	57.66970095	41	34	40.6294458	0.00001385	0.0002893	-0.0669	46417.4	47940.0	48722.0	16	26	26
1622-297	P	1622-297	16	26	6.02102081	-29	51	26.,9699057	0.00005747	0.0006600	-0.8074	48525.7	47254.0	48941.0	10	15	15
1633+382	GC	1633+382	16	35	15.49296794	38	8	4.5012938	0.00000894	0.0002278	0.0232	46769.5	44202.0	48983.0	111	268	268
1637+574	P	1637+574	16	38	13.45630340	57	20	23.9795476	0.00001553	0.0001908	-0.0343	48700.8	48161.0	49004.0	19	61	61
1638+398	NRAO	512	16	40	29.63277905	39	46	46.0290176	0.00000940	0.0002371	0.0346	47029.0	43873.0	49004.0	94	236	236
1642+690	1642+690		16	42	7.84851480	68	56	39.7569436	0.00002458	0.0001756	-0.0953	48609.9	48158.0	49004.0	19	47	47
1641+399	3C	345	16	42	58.80999318	39	48	36.9945250	0.00000886	0.0002118	0.0496	46894.5	44203.0	48983.0	174	577	580
1647-296	P	1647-296	16	50	39.54421625	-29	43	46.9529499	0.00006875	0.0008406	-0.8640	48774.0	48428.0	48942.0	7	10	10
1652+398	DA	426	16	53	52.21668187	39	45	36.6089511	0.00001319	0.0004630	-0.0030	48414.2	48196.0	48613.0	6	10	10
1655+077	06	092	16	58	9.01140955	7	41	27.5418516	0.00001709	0.0003518	-0.5870	47439.5	46338.0	48353.0	15	39	39
1656+053	DW	1656+05	16	58	33.44736866	5	15	16.4458193	0.00001179	0.0003184	-0.3376	47234.3	44200.0	48983.0	25	48	53
1657-261	P	1657-261	17	0	53.15413421	-26	10	51.7234306	0.00002654	0.0003921	-0.4941	47727.9	45356.0	48941.0	53	107	107
1706-174	0'2-111		17	9	34.34545419	-17	28	53.3632974	0.00003231	0.0005253	-0.7463	46924.3	45356.0	46942.0	25	64	64
1717+178	GC	1717+17	17	19	13.04049701	17	45	6.4387321	0.00003776	0.0009766	-0.5071	44872.1	44203.0	48164.0	15	27	31
1730-130	NRAO	530	17	33	2.70582308	-13	4	49.5460604	0.00001221	0.0003013	-0.1904	47264.3	43609.0	49004.0	182	421	421
1732+389	1732+389		17	34	20.57655529	38	57	51.4432013	0.00000990	0.0002292	0.1074	48705.3	48196.0	48983.0	28	69	69
1738+476	OT	465	17	39	57.12909642	47	37	58.3630375	0.00002086	0.0005413	-0.2344	46357.5	43809.0	48534.0	64	104	105
1739+522	4C	51.37	17	40	36.97786014	52	11	43.4080104	0.00001354	0.0002220	0.2133	48631.0	48102.0	48983.0	18	52	52
1741-038	P	1741-038	17	43	58.85617834	-3	50	4.6153229	0.00001004	0.0002703	-0.1428	47389.9	43809.0	49004.0	185	453	453
1743+173	GC	1743+17	17	45	35.20820773	17	20	1.4240024	0.00000891	0.0002769	-0.1000	48753.1	48102.0	48983.0	19	43	43
1749+701	1749+701		17	48	32.84041274	70	5	50.7690951	0.00007898	0.0004264	-0.1918	45490.6	44202.0	47652.0	45	120	124
1749+096	OT	081	17	51	32.81860443	9	39	0.7292232	0.00000861	0.0002469	-0.0831	48173.6	46336.0	49004.0	54	132	132
1751+288	GC	1751+28	17	53	42.47364970	28	48	4.9395302	0.00001297	0.0002974	-0.2350	48546.5	48103.0	48942.0	13	22	22
1803+784	1803+784		18	0	45.68400939	78	28	4.0188290	0.00004235	0.0001581	-0.0087	48604.3	47301.0	49004.0	64	149	149
1807+698	3C	371	18	6	50.68067217	69	49	28.1089085	0.00002525	0.0001677	0.0571	46633.0	44202.0	48983.0	135	320	324
1826+796	1826+796		18	23	14.10903761	79	38	49.0036005	0.00007556	0.0002765	0.3378	48758.5	48353.0	48983.0	7	16	16
1821+107	P	1821+10	18	24	2.85528558	10	44	23.7744613	0.00001847	0.0005228	-0.4917	46367.1	44202.0	48355.0	26	53	53
1845+797	3C	390.3	18	42	8.98999487	79	46	17.1285343	0.00011456	0.0002860	-0.4418	48380.9	48158.0	48613.0	6	12	12
1908-201	OV	213	19	11	9.65293400	-20	6	55.1072689	0.00001771	0.0003644	-0.4092	48036.9	45356.0	48983.0	53	102	102
1920-211	OV	235	19	23	32.18986949	-21	4	33.3315438	0.00001789	0.0003621	-0.3989	48113.6	46709.0	48983.0	52	109	109
1921-293	OV	236	19	24	51.05606419	-29	14	30.1195856	0.00002358	0.0003747	-0.3775	47467.4	43809.0	48942.0	100	271	271
1923+210	OV	239.7	19	25	59.60540806	21	6	26.1623623	0.00000890	0.0002365	0.0572	48232.2	47106.0	48983.0	49	134	134
1928+738	1928+738		19	27	48.49526526	73	58	1.5701078	0.00003340	0.0001686	0.1669	48504.6	48158.0	48732.0	14	43	43
1929+226	1929+226		19	31	24.91680745	22	43	31.2589006	0.00001350	0.0003445	-0.2118	48661.6	48613.0	48709.0	5	11	11
1933-400	P	1933-400	19	37	16.21750028	-39	58	1.5513326	0.00004299	0.0004471	-0.5194	48077.0	44227.0	48942.0	17	51	52
1936-155	P	1936-15	19	39	26.65777986	-15	25	43.0566170	0.00002460	0.0004357	-0.6510	48038.9	47301.0	48942.0	23	39	39
1947+079	1947+079		19	50	5.53949882	8	7	13.9901931	0.00003386	0.0006328	-0.7315	48699.2	48103.0	48942.0	5	7	7
1954+513	1954+513		19	55	42.73830719	51	31	48.5465660	0.00001466	0.0002071	0.2588	48609.4	48158.0	48983.0	16	47	47
1958-179	OV	198	20	0	57.09046967	-17	48	57.6707691	0.00001423	0.0003294	-0.3020	47634.7	43809.0	48983.0	129	256	254
2006-159	P	2008-159	20	11	15.71095421	-15	46	40.2516929	0.00001666	0.0003511	-0.4236	48146.7	47254.0	48942.0	33	62	62
2011-067	OW	015	20	11	14.21589934	-6	44	3.5546153	0.00008835	0.0012742	-0.9427	48622.5	48345.0	48942.0	9	13	13
2017+743	2017+743		20	17	13.07944113	74	40	48.0003411	0.00004793	0.0001981	0.2738	48746.6	48353.0	48983.0	8	21	21
2021+614	OW	637	20	22	6.68167223	61	36	58.8048418	0.00002210	0.0001951	0.2285	47849.7	44755.0	48997.0	158	226	230
2021+317	2021+317		20	23	19.01737342	31	53	2.3061775	0.00001428	0.0004392	0.1425	48822.0	48353.0	48983.0	8	19	19
2030+547	OW	551	20	31	47.95856220	54	55	3.1415118	0.00005048	0.0009829	0.3343	45481.5	44202.0	48206.0	12	18	20
2029+121	P	2029+121	20	31	54.99429973	12	19	41.3410056	0.00002383	0.0006333	-0.5419	46024.8	44202.0	48355.0	18	38	38
2037+511	3C	418	20	38	37.03474952	51	19	12.6629251	0.00001806	0.0002626	0.2226	48688.3	48158.0	48983.0	10	24	24
2051+745	2051+745		20	51	33.73457371	74	41	40.4985042	0.00009248	0.0002782	-0.3313	48695.2	48353.0	48983.0	8	12	12
2113+293	B2	2113+298	21	15	29.41347513	29	33	38.3674125	0.00001129	0.0002654	0.0520	46611.6	44202.0	48966.0	76	136	138
2121+053	OX	036	21	23	44.51736193	5	35	22.0949531	0.00001312	0.0002845	-0.3889	47973.0	47254.0	48942.0	30	63	63
2126-158	P	2126-15	21	29	12.17591511	-15	38	41.0391514	0.00002397	0.0004432	-0.6354	48589.7	48196.0	48942.0	11	22	22
2128+048	P	2127+04	21	30	32.87746378	5	2	17.4688403	0.00002493	0.0006904	-0.5163	48591.8	48205.	48927.0	9	12	12
2128-123	P	2128-12	21	31	35.26												

2155-152	OX-192	21	58	6.28195311	-15	1	9.3268148	0.00001628	0.0003442	-0.4749	47427.0	43809.0	48983.0	67	104	103			
2200+420	VRO	42.22.01	22	2	43.29139489	42	16	39.9801100	0.00001303	0.0001850	0.3866	47146.0	43809.0	4S983.0	153	322	329		
2201+315	82	2201+	31A	22	3	14.97579709	31	45	38.2698831	0.00001239	0.0002341	0.0976	48644.9	48161.0	40942.0	19	36	36	
2216-038	P	2216-03	22	18	52.03775861	-	3	35	36.8785184	0.00001245	0.0002833	-0.3684	47138.0	45246.0	48942.0	69	130	131	
2223-052	3C	446	22	25	47.25932884	-	4	57	1.3895223	0.00001218	0.0002719	-0.3620	47811.0	45151.0	48983.0	103	214	215	
2227-088	P	2227-08	22	29	40.08435076	-	8	32	54.4339234	0.00001461	0.0003070	-0.4789	48250.9	47254.0	48942.0	31	64	64	
2229+695	2229+695		22	30	36.46986199	69	46	28.0769357	0.00006697	0.0003841	0.0017	47257.8	46337.0	47782.0	8	17	17		
2230+114	CTA	102	22	32	36.40892587	11	43	50.9049787	0.00000943	0.0002118	-0.0487	47088.0	43809.0	40983.0	82	205	205		
2234+282	GC	2234+28	22	36	22.470	89869	28	28	57.4136487	0.00001061	0.0001882	0.1991	47054.9	44202.0	48966.0	112	260	260	
2233-148	P	2233-148	22	36	34.08715443	-14	33	22.18	80920	0.00002284	0.0004591	-0.6011	48518.2	48196.0	48722.0	8	13	13	
2243-123	OY-172.6		22	46	18.23200719	-12	6	51.2766569	0.00001228	0.0002834	-0.3521	47183.1	43809.0	48983.0	109	214	214		
2245-326	P	2245-326	22	48	38.68581558	-32	35	52.1864272	0.00003508	0.0004325	-0.6455	46935.3	43809.0	48942.0	49	117	119		
2251+158	3C	454.3	22	53	57.74798832	16	8	53.5617775	0.00000974	0.0001988	-0.0221	47071.3	43809.0	48966.0	159	345	346		
2252-089	P	2252-009	22	55	4.239	81814	-	8	44	4.0203730	0.00002340	0.0004721	-0.6766	40466.3	47393.0	48983.0	11	19	19
2253+417	GC	2253+41	22	55	36.70782073	42	2	52.5326256	0.00004094	0.0003866	-0.5111	45835.1	44263.0	46942.0	31	63	64		
2254+074	GC	2254+07	22	57	17.30314774	7	43	12.3033659	0.00001723	0.0003575	-0.5634	48201.1	47409.0	48942.0	14	28	28		
2254+024	P	2254+024	22	57	17.56312116	2	43	17.5126576	0.00001704	0.0003273	-0.5961	47933.1	47254.0	46942.0	19	40	40		
2255-282	P	2255-202	22	58	5.96294136	-27	58	21.2550656	0.00004148	0.0005154	-0.7755	48738.3	48196.0	48942.0	10	26	26		
2318+049	GC	2318+04	23	20	44.85663075	5	13	49.9533740	0.00001350	0.0002608	-0.4680	47937.8	47254.0	48703.0	27	51	51		
2319+272	B2	2319+27	23	21	59.86227375	27	32	46.4443142	0.00001446	0.0004163	-0.0084	48703.7	4E103.0	48983.0	7	17	17		
2320-035	P	2320-035	23	23	31.95376307	-	3	17	5.0226976	0.00001097	0.0002486	-0.3316	47170.1	44202.0	48983.0	75	157	158	
2328+107	P	2328+10	23	30	40.85224921	11	0	18.7106919	0.00001735	0.0003069	-0.6088	48462.6	48196.	0	48942.0	14	21	21	
2331-240	2331-240		23	33	55.23787091	-23	43	40.6565823	0.00002672	0.0004104	-0.6881	48653.2	48196.0	48983.0	18	36	36		
2335-027	P	2335-027	23	37	57.33909639	-	2	30	57.6280383	0.00001467	0.0003042	-0.5359	48263.5	47381.0	48722.0	19	33	33	
2342+092	P	2344+09	23	46	36.83853429	9	30	45.5164839	0.00002837	0.0004511	-0.8273	48422.1	48196.0	48703.0	8	15	15		
2345-167	P	2345-16	23	48	2.60852690	-16	31	12.0203886	0.00001591	0.0003107	-0.5312	47249.8	43809.0	48983.0	75	139	148		
2351+456	2351+456		23	54	21.68028850	45	53	4.2365796	0,00001811	0.0002213	0.1831	48701.0	47941.0	4893.0	15	31	31		
2351-154	2351-154		23	54	30.19521341	-15	13	11.2115176	0.00001617	0.0003147	-0.5524	48449.8	47381.0	4893.0	28	55	55		
2355-106	P	2355-106	23	58	10.8	E242777	-10	20	B.6100555	0.00001580	0.0003020	-0.5954	47937.3	46337.0	48983.0	39	89	89	